Northern Rhodesia

SECOND (1951) REVIEW
OF THE
TEN-YEAR DEVELOPMENT PLAN
OF
NORTHERN RHODESIA

Submitted by the Development Authority
and approved by the Legislative Council,
November, 1951

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FOREWORD

This review was introduced in the Legislative Council by the following motion:

"That this Council take note and do approve generally the Northern Rhodesia Ten-Year Development Plan, as newly revised and contained in the report submitted by the Development Authority."

The motion was debated on 19th, 21st and 26th November and approved by the Council.

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ECOND (1951) REVIEW OF THE TEN-YEAR DEVELOPMENT PLAN

SECTION 1

Introduction

Factors Necessitating a Review

1. As mentioned by His Excellency the Governor in his Address to the Legislature on 22nd June, 19, and again in the Address on 12th November, 1949, a further review of the Territory's Ten-Year velopment Plan has become necessary. The Plan was last comprehensively reviewed in June, 1948. nce then several factors have contributed to the need for a further review, the more important of ich are—

(i) the need to compare the scope of the Plan which was first drafted six years ago with present-day costs and requirements, particularly to ascertain which, if any, of the original projects may now be cut out or deferred as being no longer necessary or of first priority, and what new projects have become inescapably necessary due to changed conditions since the Plan was first drafted;

(ii) the rate at which the Plan, or a revised Plan, can be carried out having regard to—

(*a*) the rate at which funds are likely to become available;

(*b*) the physical limitations to what can be built, constructed or done (bearing in mind local capacity and the availability of housing and staff) in the remaining five years of the decennium—that is, between now and the time when the present Plan expires on 31st December, 1956;

(iii) the importance of assessing in up-to-date terms the recurrent expenditure commitments arising out of the implementation of the Plan, especially from new capital works such as hospitals and schools, so as to ensure that the Territory's budget in future years, when the present Plan has ended, will be able to carry these recurrent charges and that recurrent expenditure is not getting out of hand.

2. Changing conditions and a more precise knowledge of costs have indicated that the provision £17 million in the 1948 review of the Plan will be inadequate. It has also been abundantly monstrated that to plan for as long a period ahead as ten years in the rapidly changing circumstances colonial territories to-day, or at any rate in Northern Rhodesia, is unrealistic; and that no ten year n that will be immune from change either in cost or direction can be framed with undue lexibility. It is hoped that when the period of the present Ten-Year Plan is concluded on 31st December, 56, any further Development Plan for Northern Rhodesia will be for a period not exceeding five years. ve-year plans have proved the best elsewhere.

SECTION 2

Finance

3. The Development Plan, as revised in 1948, provided for the expenditure of £17 million, comprised

(*a*) *Territorial Funds* (being £3 million from Reserve Funds and £2½ million from annual surpluses appropriated to the Development Fund between the years 1949 and 1956; known as "Northern Rhodesia Development Account") ...	£5,500,000
(*b*) *Colonial Development and Welfare Fund*	£2,500,000
(*c*) *Loan*	£9,000,000
	£17,000,000

4. A first instalment of *Loan* of approximately £2½ million was received in 1949, and it is hoped t further instalments will be received into the Development Fund between now and 1956. By the l of 1951 it is estimated that a total of £713,126 will have been expended out of the £2½ million *onial Development and Welfare* territorial allocation, the balance of which will be progressively orbed during the remaining years of the decennium up to 1956. With the payment into the velopment Fund by 31st December, 1951, of a total of £7,535,035 from territorial funds not only has planned territorial contribution been exceeded by some £2 million but the size of the Plan has already n increased from £17 million to £19 million.

5. The Development Plan, therefore, as it stands in 1951 provides for the expenditure of just over million, made up as follows:

Territorial Funds	£7,500,000
Colonial Development and Welfare Fund	£2,500,000
Loan	£9,000,000
	£19,000,000

6. The additional funds required, over and above this sum of £19 million, resulting from the present review will be summarised later and the possible sources of this finance discussed; but meanwhile it is appropriate to indicate the financial basis on which the present review has been conducted.

7. *Recurrent Expenditure.* The danger of recurrent expenditure getting out of hand has already been mentioned (paragraph 1). It was considered that the most effective way of maintaining control over this was for each major department's recurrent expenditure by the end of the Plan, that is for the year 1957, to be broadly fixed *in advance*; and for each department to plan its annual increases in such expenditure between 1951 and 1957, both those increases arising from normal departmental expansion and those resulting from new capital works (e.g. the staffing of hospitals and schools) so that the end figure or prescribed limit of recurrent expenditure in 1957 should not be exceeded.

8. *Transfer of Recurrent Development Expenditure to Departmental Account.* Furthermore, since at the end of the period of the Development Plan all recurrent expenditure arising from the implementation of the Plan will in any case have to be assumed by and carried in the territorial budget, Heads of Departments were instructed when preparing their revised departmental development plans to transfer all development recurrent expenditure present *and future* from their development plans to departmental heads—the only exceptions being in the case of development schemes of limited duration which will cease before the end of 1956 or schemes whose recurrent element is partially or wholly financed under the Colonial Development and Welfare Act.

9. This excising of all recurrent expenditure from the Development Plan is a development of the policy advocated in the 1948 review (paragraph 199), whereunder such charges were to be steadily and progressively absorbed year by year in the territorial budget. It is considered, however, in the light of experience gained since 1948, to be the best means of ensuring that recurrent expenditure commitments arising from development works and schemes, and the financial implications of the Development Plan on the Territory's budgetary position, are kept prominently and regularly in view—since, in future, increases in departmental recurrent expenditure, whether from normal departmental expansion or arising from new capital works (e.g. staff) will have to be justified annually before the Budget Advisory Committee. A further result of this transfer of recurrent development expenditure to departmental heads is that the Plan then becomes, except for schemes and projects involving recurrent expenditure of limited duration, a Capital Works Plan, and will be, in consequence, the easier to control and relate to any changes in the Territory's economic circumstances since new capital works can be begun, or not, according to the circumstances then prevailing.

10. *Method of Fixing Maximum Permissible Recurrent Expenditure.* The question will be asked how each department's maximum permissible recurrent expenditure by 1957 could be fixed now, having regard to the difficulty in the peculiar circumstances of Northern Rhodesia's economy in forecasting territorial revenue over a lengthy period of years hence. This was done by assessing the amount of revenue available for expenditure in 1957, exclusive of appropriations, at £14¼ million out of an estimated total sum of £19 million. Of this sum £855,000 was earmarked for the Health Department and £1½ million for the two Education Departments and the balance distributed among other departments and non-departmental Heads in such a way as to provide for a rate of growth year by year (from 1951) of 6 per cent. (compound) for Personal Emoluments, Other Charges and Special Expenditure. Since this method of controlling departments' residual expenditure was devised in 1950 the Territory's revenue has become increasingly buoyant, and unless a major economic crisis should occur it is likely that revenue available for expenditure in 1957, exclusive of appropriation in the same ratio as previously, will considerably exceed £14 million and may well reach double that figure, thereby permitting an annual rate of growth higher than 6 per cent. (compound). This trend was already apparent before the end of 1950, and the Legislature has, in approving the Territorial Estimates for 1951, permitted a greater degree of expansion by departments for this year than was envisaged when this revision of the Ten-Year Development Plan was begun. The 1951 estimates of departmental expenditure represented an increase of some 19 per cent. over the previous year, which corresponded to a compound rate of 13 per cent. over the period until 1957. Bearing all these factors in mind, therefore, and considering also that the rate of departmental expansion is governed not only by the limits of available finance but also—and to a greater extent—by the Territory's building capacity and its ability to import staff and equipment, it is considered advisable to plan on a conservative basis and, for the present, to retain the 6 per cent. compound factor, although it can be recognised that this figure will allow considerable latitude in permitting expansion at a higher rate where this can be justified. The planned residual expenditure on the foregoing review has now been compared against an estimated figure for 1957 based on an annual rate of growth of 6 per cent. (compound) computed from the approved 1951 estimates. This comparison, in so far as the departments most intimately connected with the Plan are concerned, is shown at Appendix 19.

SECTION 3

Capital Works

11. In this review many projects are as yet unplanned owing to shortages of staff, and it has been possible to include only the most realistic provisional figures available for these works. These provisional amounts will have to be regarded as normal cash limits unless it can be conclusively shown that this is impracticable. Heads of Departments will, however, be required to make every effort to keep within the approved departmental allocation and works planned accordingly.

12. It is necessary to emphasise once more that capital works which will give rise to new recurrent expenditure (e.g. an entirely new school as distinct from a new building replacing an existing school building) have been related as far as possible to the permissible recurrent expenditure ceiling for 1957 of the department concerned.

SECTION 4

Objectives of the Revised Plan

13. The broad long-term objectives of the original (1947) Ten-Year Development Plan for Northern Rhodesia as reviewed in 1948 remain the same, as do also the immediate objectives of more Food, more Dwellings and better Roads ("*F.D.R.*"). The only changes are in the financial structure of the Plan, as described above: the method adopted of preventing recurrent expenditure getting out of hand; the transfer of development recurrent expenditure to departmental heads; and, of course, new works arising from urgent new needs not foreseen when the Plan was first drafted six years ago.

14. *Interim Additions to the Plan.* As mentioned in paragraphs 4 and 5 above, interim additions to the previous £17 million Plan, amounting to some £2 million by the end of 1951, have already been made. These *ad hoc* additions were made with the express purpose of preventing any delay in the carrying out of new works or schemes known to be urgently needed but not included for one reason or another in the original Plan. The 1951 Development Fund Estimates provide all the finance that is required in 1951 with the exception of certain items listed in the Supplementary Development Estimates at Appendix 18. On the other hand, by 1952 new money for new or recosted projects will be required, and it is essential therefore that the financial arrangements contemplated in this review be settled as soon as possible.

SECTION 5

Factors Affecting Future Development

15. *Labour.* One major factor which is already materially affecting the rate of execution of the Development Plan is the increasing shortage of semi-skilled and unskilled African labour. Reference was made in paragraph 5 of the 1948 review of the Development Plan to the need for increasing the output of work of the individual African, and it was accepted, as an aim of policy, that this could only be effected in the long term through the social services that lead to better health and the inculcation of better skills. That policy still holds good: but what is to be done to keep things going meanwhile? There is no single solution, but many things can contribute towards meeting this labour shortage—which is brought into prominence by Northern Rhodesia's rapidly expanding economy. In this connection the Committee appointed to Inquire into the High Costs of Building has produced a report which contains valuable information and advice on the best use and employment of labour.

16. *Mechanisation.* Increased mechanisation, both in agriculture and in industry, is one method of meeting the labour shortage. Since African labour is no longer plentiful, and was never cheap in the true sense of the term, it behoves all employers to mechanise wherever possible those operations previously done less efficiently by hand labour—while recognising at the same time that increased mechanisation of agricultural and industrial processes requires fewer numbers but higher proficiency and quality in those employed to work or tend the machines. The Public Works Department is progressively mechanising all road construction and road maintenance operations wherever this is possible. There is no doubt that the brick industry is susceptible of much improvement in this direction; and the fact should be recognised by new brickmaking enterprises—as well as by those asked to finance them—that the labour for brick production by the old manual methods will not be available.

17. *More Efficient Utilisation of Labour.* Everywhere one sees labour under-supervised or wastefully employed. All employers, including Government, should review constantly their methods of supervision of labour to see how labour can be saved by better planning and grouping of the work, by improved transportation, by midday breaks and meals, by better equipping with tools, and, most important, by increased and more thorough supervision throughout the task.

18. *Power Supplies.* With the exception of the Lusaka Electricity Undertaking and the Livingstone (Victoria Falls) Hydro-Electric Scheme—both of which are at present being developed by Government—the subject of increased electric power supplies is not specifically dealt with or provided for in the revised Development Plan. An Electricity Development Committee has recently been appointed with the special task of surveying, reviewing and co-ordinating the proposals of local authorities for developing their electricity undertakings. This was considered as being of first importance, since the establishment of secondary industries in various towns has all too often in the past been baulked or prevented altogether by the lack of these services.

19. *Hydro-Electric Scheme on Kafue River.* There is no doubt that Northern Rhodesia's greatest need for large-scale industrial development is a cheap and abundant source of power. It was recognition of that fact that inspired the investigations now being undertaken into the Territory's known coal occurrences. It is equally important, however, that the Territory's possibilities for the development of hydro-electric schemes should be exhaustively and thoroughly explored. For the last three years an inter-territorial Hydro-Electric Power Commission has been examining the respective merits of the Kariba Gorge on the Zambezi and the Kafue Gorge in Northern Rhodesia. The Commission reported that the information for the Kafue project is scanty and that considerable further investigation would be required before a definite proposal could be formulated. They were of the opinion that since, on present information, the capacity of the Kafue scheme was only 380,000 kw. at 70 per cent. load factor, while

the initial demand was 300,000 kw., and a rapid increase was forecast. Kafue would not be suitable as a first development. The Commission, therefore, recommended that the Kafue scheme should be regarded as an extension to be carried out when required to meet the growing demand for power. In the meantime the investigation necessary for a complete study of Kafue should be continued. Recent hydrological investigations conducted by Brigadier Hawes, Adviser to the Government of Uganda on the Owen Falls Project, have, however, brought to light important new evidence of the potentialities of the Kafue River as a hydro-electric project, and it is considered that further hydrographic surveys should be undertaken to assess the possibilities of a hydro-electric scheme on the Kafue River by means of large-scale water storage upstream from the Kafue Gorge, possibly at the Meshi Teshi Gap. The object of this scheme would be the raising of the river's mean flow and, possibly, at the same time allowing for irrigation. Full investigation is also required into the proposals by Mr. Gordon James, C.B.E., for the use of a water tunnel through the massive gneiss in the gorge instead of a complicated conduit or leat following the contour on the south bank and flowing into a costly penstock. A token sum of £100,000 has been included in the Plan to meet the cost of these further investigations (Appendix 16), and steps have already been taken to obtain a topographical and geological survey of the gorge.

20. *Transportation.* The criticism has been levelled, with some justification, that the previous Development Plan disregarded the necessary expansion of rail transport and port facilities required to meet Northern Rhodesia's increased demands, with the result that the programme of works being undertaken within the Territory has on occasion during the last three or four years been in danger of breaking down due to lack of rail or port capacity to bring in the necessary supplies. This has certainly been the case. It is hoped, however, that with the consideration now being given to these rail and port problems both within the Rhodesias and outside and with the increased capital becoming available for the expansion of the Rhodesia Railways' facilities, rail and port capacity will soon catch up with, and keep ahead of, demand. It is necessary to state that this form of development is, and has always been, outside the scope of the territorial Development Plan. Nevertheless, arrangements have been made for the Development Authority to be kept informed of the Rhodesia Railways' plans and progress as this is so closely related to the Development Plan of the Territory.

21. *Mines.* No provision is included in the Plan for mining projects, but the immense contribution made by the mines to territorial development cannot be over-assessed. The prosperity and great economic progress which Northern Rhodesia is enjoying is due in a very large measure to the development carried out by the mining companies. It is pleasing to record that Mufulira Copper Mines are opening up a new mine at Chibuluma, some six miles from Nkana, and it is hoped that this may be the first of a series of new mines on the Copperbelt.

22. *Missionary Societies.* The very valuable part missionaries have played and will continue to play in the development of the Territory needs little emphasis. The work of many devoted men and women over the past half-century and longer speaks for itself. From the earliest days missionaries have been pioneers in African development, and the many societies working in the Territory have brought learning and the word of God to the African people. Missionaries, through their normal evangelical, educational and medical teaching, are assisting greatly with the general advancement of the people, and it is hoped that some of them will find the necessary time to serve on Area, and possibly Provincial, Teams so that they may have direct contact with all development projects in their areas.

23. *Colonial Development Corporation.* Since the Plan was last revised the Colonial Development Corporation has begun operating in the Territory and, with Government, has recently launched the Chilanga Cement Works, which came into production recently. The Corporation is interested in all forms of development, and another major item at present under consideration is the Zambezi Hotel on the north bank of the river near the Victoria Falls. The appointment to the Territory of a representative of the Corporation at Livingstone in May, 1949, and his subsequent transfer to Lusaka in October, 1950, has made it possible for Government to maintain close contact with the Corporation and enabled discussions to take place on development projects of mutual interest. The local representative has travelled extensively in the Territory and met Provincial Teams and other bodies interested in development. His presence here is warmly welcomed by Government and should ensure that all practical development propositions which may not find backing by private enterprise will receive careful examination by the Corporation.

24. *Rural Development.* The effect on labour supplies of improved and stabilised African agriculture, and the gradual build-up of the rural economy with the introduction of economic crops and social amenities, must be recognised. It is definite that with the improvement of rural conditions as planned (and rightly planned so as to ensure part of the Territory's food supplies) the tendency will be for less labour to drift for a period to the towns either " to buy money " or to seek excitement. The rural African will stay put. So also will the now-emerging African working-class in the towns. To secure the latter's stability and contentment the development of urban facilities for the African town-dweller—churches, schools, recreation fields, shops, good family housing—are of the utmost importance and must be recognised, and the responsibility fairly and squarely shouldered, by local authorities.

25. *Provincial Teams.* Under the general guidance of the Development Authority the Provincial and Area Teams are responsible in a large measure for carrying out the development programme in their areas. Officials and settlers sit with Africans and together consider and deal with all the matters which arise from the implementation of the Plan.

SECTION 6

26. Local Authorities' Development Programmes

Allocation from Development Plan as at 1st January, 1951. £	*Revised cost of short-term schemes remaining in the Plan and recurrent expenditure already charged to the Plan.* £	*Revised cost of capital works including new works.* £	*New money required.* £
500,000	—	*3,500,000	3,000,000

(*NOTE.—Excludes £2¼ million appropriated for loans to local authorities 1949-51 outside the Development Plan.)

The 1948 review of the Development Plan provided £500,000 as a " primer " for loans to local authorities for the purpose of financing, in part at any rate, their initial development projects. At the end of that year these projects were examined by a sub-committee of the Development Authority, and it was found that the requirements of local authorities were no less than £5½ million. Since then a number of the projects have been crystallised and many have been put in hand, the financing of them by Government loans being controlled by the Local Authorities' Loans Board, to whom the £500,000 mentioned above was handed over together with a further £2¼ million appropriated from time to time by the Legislative Council previously and in subsequent years.

27. The requirements of local authorities have not yet been re-assessed in detail, but it is estimated that in the light of changes which have become necessary since the original assessment was made and in view of the substantial contribution which local authorities can make towards the European housing shortage in the Territory, loans to the extent of a further £3 million will be needed before the end of the Development Plan in 1956. Provision has been made in the Plan for this sum, which will be controlled by the Local Authorities' Loans Board, since adequate essential services such as power, water, sewerage and houses, which are the responsibility of local authorities, are indispensable to all forms of development and in particular the development of industry. Local authorities should be able to plan and implement their plans up to a given financial limit, and an amount from the above provision will be voted annually by the Legislature subject to the financial position of the Territory.

28. This section does not contain provision for loans to local authorities for the construction of (1) African housing in urban areas (Section 24) or (2) for their power requirements (Section 8).

SECTION 7

Public Works—Buildings

29. *Building and General.*

Allocation from Development Plan as at 1st January, 1951. £	*Revised cost of short-term schemes remaining in the Plan and recurrent expenditure already charged to the Plan.* £	*Revised cost of capital works including new works.* £	*New money required.* £
3,792,312	14,981	7,438,019	3,660,688

The main items in the above increase of £3⅔ million, full details of which are given in Appendix 1, are:

	£
Further Staff Housing for African Civil Servants	710,000
Further Staff Housing for European Civil Servants 1950-52 (£875,000 having already been provided out of a three-year programme)	125,000
Further Staff Housing for European Civil Servants (1953-56)	2,000,000
Transfer of Departments' Headquarters to Lusaka	60,215
Police—Three Mine Police Stations (Chingola, Mindolo, Mufulira)	180,000
Military Barracks, Bwana Mkubwa	300,000
Legislative Council Chamber and Ancillary Offices	175,000

30. *Staff Housing.* As regards staff housing, both European and African, not only have the 8–50 housing programmes of 450 European and 2,500 African quarters proved to be quite inadequate the average costs per unit on which the original estimates were framed of £2,000–£2,400 for a European se and £150 for a two-roomed African house are, due to the sharp increase in building costs over the three years, no longer valid. If the staff housing situation is not to deteriorate further the Legislature have to resist attempts to increase European Government staff recruitment beyond the capacity to vide housing for them, as assessed from year to year. On present indications the new units that can rovided in 1952 will be 239.

31. *Transfer of Departments to Lusaka.* The sum of £60,215 provided in paragraph 29 above for ransfer of departments to Lusaka is, together with the unspent balance of £239,785 under Head 99, head 109 of the 1951 Development Fund estimates, to meet the cost of two permanent wings to the nt Central Office block at Lusaka, to provide additional accommodation of approximately 300 s, the design to be in accordance with the approved Watson Plan for the layout of the Capital area.

32. *Legislative Council Chamber.* A sum of £175,000 has been included to provide for a new Legislative Council Chamber and Ancillary Offices, which may be required before the end of the Plan.

33. *Police Substations at Mine Compounds.* Two of these are at present in course of construction at Wusikili and Luanshya mine compounds. A further three are required at Chingola, Mindolo and Mufulira mine compounds to enable the present unsatisfactory system of private mines police to be withdrawn and the policing of the mine compounds to be undertaken by the Northern Rhodesia Police.

34. *Military Barracks, Buwana Mkubwa.* In 1950 the Government agreed to construct and maintain premises for the military in Northern Rhodesia. The capital cost of the work is not yet known, but is expected to be of the order of £300,000, and a token provision of this sum has accordingly been made.

SECTION 8

Public Works—Electricity and Water Supplies

35. *Public Utilities.*

	Allocation from Development Plan as at 1st January, 1951. £	*Revised cost of short-term schemes remaining in the Plan and recurrent expenditure already charged to the Plan.* £	*Revised cost of capital works including new works.* £	*New money required.* £
(1) Lusaka Water Scheme	410,000	—	690,000	280,000
(2) Local Authorities' Power Requirements	335,000	—	1,580,000	1,245,000
(3) Lusaka Sewerage and Stormwater Drainage Scheme ...	—	—	500,000	500,000
TOTAL ...	£745,000	—	£2,770,000	£2,025,000

36. *Lusaka Water Scheme.* The revised cost of this scheme, which was originally estimated to cost £396,000, is now £690,000, of which a total of £410,000 is already provided for in the financial structure of the Development Plan as it stands to-day. A further sum of £280,000 is therefore required to complete the scheme. This large increase in cost is chiefly the result of previous underestimation of the cost of rock excavation for mains in the Old Town and Central areas; but it has to be borne in mind that a water scheme in a growing town like Lusaka is never finite and that in time it will be revenue-earning.

37. *Lusaka Electricity Undertaking.* Government owns and operates the Lusaka Electricity Undertaking and has made provision in the Revised Development Plan for the expansion of the present (No. 1) power station to meet anticipated electricity requirements in Lusaka up to mid-winter 1953. At that date a new (No. 2) power station should be brought into operation if Lusaka is not to be short of power. The Local Governing Body or an Electricity Supply Commission will be responsible for commissioning consultants and organising the project. Financial provision to cover the cost of Stage 1 of No. 2 power station has been included in the Plan and will be made available by a loan on an economic basis to the body planning the expansion of the town's power supply.

38. *Livingstone (Victoria Falls) Hydro-Electric Scheme.* The original undertaking, with a capacity of 2,000 kw., was acquired by Government from the Victoria Falls and Transvaal Power Company Limited in March, 1949. The sum of £200,000, of which £100,000 is "new money" not previously included in the Development Plan, will increase the capacity of the undertaking to 5,000 kw. by 1953 and to 8,000 kw by 1956, and provide for the necessary improvement and extension of the high- and low-voltage distribution networks to meet Livingstone's estimated future power requirements. Orders have been placed for the first £100,000 worth of plant and equipment required. At the June (1951) session of the Legislative Council, legislation was enacted placing the undertaking under the control of a statutory board.

39. *Lusaka Sewerage and Stormwater Drainage Scheme.* Government and the Lusaka Management Board have been warned repeatedly by the Health Authorities that if the present Old Town is to remain where it is (as now seems inevitable), waterborne sewerage and stormwater drainage are inescapable requirements due to the difficulties inherent from the dolomitic limestone field on which the Old Town stands. A sewerage and drainage scheme for this area, costing £350,000, on which every conceivable economy has been practised, has been prepared by the consultants, and it is proposed that it should be implemented as soon as possible.

40. Now that the policy of developing the central area of Lusaka has been agreed and a number of the plots in that area reserved for main buildings, it has become necessary for immediate consideration to be given to the provision of sewerage and stormwater drainage here. It is hoped that agreement will very shortly be reached with the local authority as to the exact method in which this area will

developed, whereafter the consultants, who have already made their preliminary investigations, will be commissioned to prepare a complete scheme. Additional financial provision amounting to £150,000 has been included in the Plan to cover the cost of this extension.

41. The Development Authority has given much thought to the method of recovering the capital outlay on these schemes and has examined a number of proposals submitted to it. Three factors, however, peculiar to Lusaka, make it clear that the ratepayers may have difficulty in refunding the full cost. These are:

(i) the wide dispersal of the town;

(ii) the very high incidence of limestone in the Old Town area; and

(iii) the enforced rapid development of the town due partly to the expansion of the Government.

It is proposed, therefore, that these costs be recovered by the following means:

(1) the redemption of loans to the local authority from time to time amounting to such sums as when calculated per user are equivalent to that which can be serviced by other townships embarking on sewerage schemes, e.g. Livingstone and Broken Hill;

(2) raising the price of land in the central area which will be alienated mainly to commercial undertakings;

(3) levying a surcharge for sewerage on land in the central area.

SECTION 9

Public Works—(a) Roads; (b) Air; (c) Inland Water Transport

42.

	Allocation from Development Plan as at 1st January, 1951. £	*Revised cost of short-term schemes remaining in the Plan and recurrent expenditure already charged to the Plan.* £	*Revised cost of capital works including new works.* £	*New money required.* £
(*a*) Roads ...	1,708,188	13,613	*4,462,922	2,768,347
(*b*) Air (Capital, Central African Airways) ...	308,000	—	308,000	—
(*c*) Inland Water Transport ...	50,000	—	50,000	—
TOTAL ...	£2,066,188	£13,613	£4,820,922	£2,768,347

(*NOTE.—In addition to this there are contributions of £277,778 from the Joint Northern Rhodesia-Nyasaland Colonial Development and Welfare allocation for part cost of the Kafue–Chirundu section of the Lusaka–Chirundu Class I road and of £500,000 from the Overseas Development Pool of the United States Economic Co-operation Administration towards the cost of improving the Broken Hill–Tunduma road to Class II standard.)

It will be seen from the above that all the new money in the surface communications section of the revised Plan now presented is for roads. The capital contributions to Central African Airways, which in the opinion of some should never have been charged to the Development Fund, have now ceased; and in the absence as yet of any detailed scheme for the development of inland water transport the original (token) provision of £50,000 has not been increased.

43. Full details of the proposed expenditure on roads of £4,476,535 (an increase of £2,768,347 over the sum provided in the Plan as at 1st January, 1951) are given in Appendix 3. The question will at once arise—How has the large increase over the sum of approximately £1½ million provided for roads in the 1948 review occurred? The three main reasons are quite clear—the original cost per mile of Class I (tarmac) roads was grossly underestimated in 1948 at £2,500 per mile, as were also, but to a lesser degree, the cost per mile of Class III and Class IV roads, and the cost of road plant; the bringing up to Class I standard of the remaining sections of the route from Livingstone through Lusaka to Ndola has now been provided for at an approximate additional cost of £1 million; improvements to Class II standard of the Broken Hill–Tunduma section of the Great North Road have been included at a cost of £½ million from the Development Fund together with a contribution of a further £½ million from the Overseas Development Pool of the Economic Co-operation Administration; and for the first time provision (£300,000 between 1952 and 1956 in addition to a first instalment of £50,000 in the 1951 Development Fund estimates) has been provided for capital grants to Road Boards for district roads—provision not previously made in the Development Plan but now considered to be essential for a balanced territorial road programme and for the proper development, by adequate communication, of the farm areas which these roads chiefly serve. A sum of £120,000 is provided for the 120 miles of the escarpment section of the Great East Road.

44. With the establishment in the Territory of several large road-contracting firms and the gradual increase of the Public Works Department's own departmental road construction organisation to a capacity of some thirty-six miles a year, there is little doubt that the large programme of road work envisaged can be begun and completed before the end of the Ten-Year Development Plan on 31st December, 1956.

45. New road construction is no longer a haphazard affair. Roads are now designed on a scientific basis employing soil analysis from the start and proved techniques. No change is proposed in the four classes of roads described at paragraph 106 of the 1948 review (with the exception of the Kafue–Chirundu section of the Lusaka–Chirundu road which for technical reasons will have an eighteen-feet instead of the normal ten-feet bituminous carpet); but, since the Development Plan was last reviewed, the following road standards have been adopted for Class I and Class II roads throughout the Territory:

Maximum gradient: 1 in 15 (except in hill roads where more severe gradients may be necessary on short lengths).

Curve radii: The largest radii practicable is to be used and curves having radii of less than 500 feet may only be adopted after the Commissioner of Works' approval has been given.

Sight distances: On all horizontal and vertical curves either a "non-passing" sight distance or a "passing" sight distance will be provided. A "non-passing" sight distance is the longest distance that a driver whose eyes are 4.5 feet above the road surface can see the top of an object 4 inches high on the road. A "passing" sight distance is the longest distance at which a driver whose eyes are 4.5 feet above the road surface can see the top of an object 4.5 feet above the surface. The "non-passing" sight distance shall be 475 feet and the passing sight distance shall be 1,600 feet.

46. *Bridges.* The cost of bridges and culverts involved in the construction or reconstruction of a road is now to be charged to the cost of the road work. For this reason it has not been considered necessary to increase the provision of £150,000 for bridges in the 1948 review, the balance of £86,000 of which is considered to be sufficient for bridge works on existing roads for the years 1952-56. The only exception to this is the insertion of a new item of £100,000 for the construction of a bridge—possibly a road rail bridge—over the Chambezi River on the Mpika–Kasama road. Consideration has also been given to the insertion of provision for a bridge at Chembe over the Luapula River, but in view of its high cost (the provisional estimate is £300,000) and the low, though increasing, density of traffic on the road it may be preferable to extend the existing ferry service and postpone the bridge project for a period.

SECTION 10

Public Works—Aerodromes

47.

Allocation from Development Plan as at 1st January, 1951.	*Revised cost of short-term schemes remaining in the Plan and recurrent expenditure already charged to the Plan.*	*Revised cost of capital works including new works.*	*New money required*
£	£	£	£
867,000	—	962,070	95,070

Livingstone Airport: With the completion of the main runway, first subsidiary runway, hardstanding, drainage, lighting, staff accommodation and terminal buildings (Stage 1) of the Livingstone airport on 12th August, 1950, it is not proposed to extend the project at present beyond the provision of a parallel taxi track (considered to be necessary as a safety measure apart from its operational convenience) and the surface improvement of the present secondary runway at an estimated total additional cost of £55,000. There are, however, a number of minor improvements required which were not provided for under Stage 1 and which are considered necessary to complete the work. The total cost of these improvements, which include a perimeter fence, extensions to the water supply, additional transformers, and hardstanding for jet-propelled aircraft, is estimated to be £30,070. In addition, the total cost of Stage 1 is likely to exceed the approved estimate of £865,000 by up to £10,000, due partly to the resurfacing of some portions of the main runway in 1950, and provision for further expenditure has accordingly been made in this section of the Plan. (*See* Appendix 14.)

48. *Lusaka Airport.* The present main runway has been improved (under Public Works Extraordinary provision) and is now completely all-weather and suitable, as an alternative to Livingstone, for "Hermes" type aircraft. In these circumstances, and in view of the unlikelihood of a move being made within the next decade from the present site to a new site, no financial provision has been included for the latter in the present review of the Development Plan.

49. *Other Main Airports.* The improvements already carried out at Kasama and Abercorn, together with those to be executed at Ndola in 1952–53, are considered to be adequate for the present and up to 1956, and are being financed from Public Works Extraordinary.

50. New minor aerodromes at Mongu, Fort Rosebery and Petauke and improvements to airfields elsewhere are not included in the Development Plan as they are carried out and financed under Public Works Extraordinary provision in the annual territorial estimates.

SECTION 11

Public Works—Staff

51. *P.W.D. Development Staff.* Although in 1948 what was originally termed "P.W.D. Development Staff" was merged into the department for the reasons given in paragraph 123 of the 1948 review, it has since become obvious that, with the total capital works either carried out or supervised by the P.W.D. running at a figure of nearly £3 million a year, it would have been unwise to expand the permanent and contract staff of the Public Works Department to this capacity. It was decided, therefore, in 1949

a Public Works Department special Development Staff establishment should be set up to cope with the Development Plan capital works programme (details of this staff are shown at Appendix LIV of the 1951 Development Fund estimates) and that staff should be engaged thereto under thirty months' to three years' contracts for the remaining years of the Ten-Year Development Plan. To meet the cost of this P.W.D. Development staff the sum of £750,000 "new money" will be required for the five years 1952–1956 inclusive, a total of approximately £150,000 having been already provided under Head 98, sub-head 301, of the Development Fund estimates, 1950 and 1951. This is illustrated as follows:

Allocation from Development Plan as at 1st January, 1951.	*Revised cost of short-term schemes remaining in the Plan and recurrent expenditure already charged to the Plan.*	*Revised cost of capital works including new works.*	*New money required.*
£	£	£	£
150,000	900,000	—	750,000

SECTION 12

Posts, Telegraphs and Telephones

52.

Allocation from Development Plan as at 1st January, 1951.	*Revised cost of short-term schemes remaining in the Plan and recurrent expenditure already charged to the Plan.*	*Revised cost of capital works including new works.*	*New money required.*	*Recurrent Expenditure, 1957*	
				Permissible.	*Required.*
£	£	£	£	£	£
400,000	—	778,925	378,925	463,000	353,000

The above represents a large increase over the amount of £400,000 provided in the 1948 review of the Development Plan for the expansion of posts, telegraphs and telephone services; but the case for the increase is a very strong one. The detailed case for each of the new projects making up the total increase of £476,825 now proposed is given briefly in Appendix 4. It may be appropriate, however, to mention here some of the major factors contributing to this increase. Apart from the general benefit to the development of the Territory of improved communications of all kinds—surface, air and telecommunications—there is a particular advantage from the security aspect in a territory the size of Northern Rhodesia in having all remote centres of population linked with headquarters by telegraph or, preferably, telephone communication. In the event of war the advantage would be all the greater. This principle was accepted long ago, and steps are nearing completion to bring all outstations into wireless communication with Provincial headquarters which are themselves linked to Central Government headquarters by either telephone or telegraph or both. It is a logical extension of the steps already taken, and will at the same time facilitate the general development that a town such as Fort Jameson should not only be in radio-telephone communication with the line of rail but should itself be linked by trunk line with the considerable number of isolated farms in that area. The same applies to a less extent to Abercorn and adjacent areas. Another factor that has rendered the postal and telecommunications plans of as recently as 1948 now out of date is the rapid rate of immigration into the Territory and the demand, often clamorous, by new firms and industries for improved telephone and postal facilities in the towns. Finally, the increasing economic importance of Northern Rhodesia requires even further improvements in the inter-territorial trunk and V.H.F. radiotelephone links if adequate communications are to be furnished between the increasing population of the Territory, particularly European, and Northern Rhodesia's important neighbours and business associates to the south.

53. *Recurrent Expenditure.* The permissible expenditure ceiling of the department by 1957 is £463,000. The revised postal and telecommunications plans now submitted are estimated to require a recurrent expenditure by 1957 of £353,000. Against this, however, has to be considered the increased revenue that will accrue from improved facilities. Postal charges in Northern Rhodesia are still sufficiently low compared with those elsewhere to permit of an increase if the postal service is shown, as a result of investigations to be undertaken as soon as the Accounts Branch of the Postal Department can be reorganised, to be grossly sub-economic. Increased charges could also be levied for the more luxurious form of communication by telephone.

SECTION 13

Agriculture

54.

Allocation from Development Plan as at 1st January, 1951.	*Revised cost of short-term schemes remaining in the Plan and recurrent expenditure already charged to the Plan.*	*Revised cost of capital works including new works.*	*New money required.*	*Recurrent Expenditure, 1957*	
				Permissible.	*Required.*
£	£	£	£	£	£
731,007	298,428	460,265	27,686	262,000	265,000

The above figures illustrate that with all long-term recurrent expenditure transferred to departmental head the cost of the revised Agricultural development plan is some £20,000 more than the provision in the 1951 Development Fund estimates, and £51,000 more than the original provision of £700,000 for Agriculture in the 1948 review. The revised Agricultural plan, including research schemes not wholly financed from the Development Fund, is shown in detail at Appendix 5.

55. *New Features in Revised Agricultural Development Plan.* There have been many changes in the Agricultural plan for the Territory since it was last reviewed in 1948. The extension of the East African

Ground-nut Scheme to Northern Rhodesia on a 300,000-acre basis, as first proposed, did not, happily, take place; but in 1950 Government embarked on a small pilot ground-nut scheme estimated to cost about £48,000 (since revised to £75,000) over five years to acquire data for the benefit of farmers on the large-scale mechanised cultivation of ground-nuts and other crops. Since the 1948 review an entirely new and much-needed agricultural research scheme has been approved and launched, capital expenditure on which is borne by the Colonial Development and Welfare Fund Central Research allocation, as is also half the recurrent expenditure for the first five years. A soil conservation unit under a Chief Conservation Officer has been formed, equipped and put into operation. This unit will undertake bush-clearing operations in the wet season. It is operating with three units of machinery at present, but it is proposed to increase this number to five in 1953.

56. *Need for Increased European Agricultural Staff.* The greatest change, however, in the proposals of the department for the agricultural development of the Territory falls outside the Development Fund—it is for a very much increased European staff. It has become obvious that all that was planned to improve European and African agriculture could not and cannot be carried out without a very much increased European staff, both qualified and supervisory. The establishment of a full Provincial organisation (i.e. Provincial Agricultural Officer and European Clerk in each Province in addition to Agricultural Officers, Agricultural Supervisors, etc., in districts) is considered to be urgent and essential. Details of the rate of growth and distribution of the proposed staff are given in Appendix C of the Director's plan—which, elsewhere, sets out fully the case for more staff. If it were necessary to add anything further to this case, mention might be made of the need, in the territorial interest and in order to help diversify Northern Rhodesia's economy, to expand the tobacco industry; of the need to produce still more food—for, with the exception of maize, the Territory is still dependent to a large extent on imports; of the need to introduce new economic crops, such as rice, to those rural areas suitable for them; of the assistance and advice required from Agricultural Officers by European farmers, particularly new settlers, no less than by the African. It would be a false economy to stint agricultural staff.

SECTION 14

Agricultural Development and Marketing and Co-operative Societies

57. On the recommendation of the Joint Development Adviser a sum of £500,000 was inserted in the original Ten-Year Development Plan for "agricultural development and marketing and the development of secondary industries"; and in the 1948 review a sum of £20,000 was provided in the Loan programme for loans to co-operative societies. Experience has shown that the former provision was excessive and that the latter, for loans to co-operative societies, was too small. In any case, with the establishment of an Industrial Loans Board with authorised funds of £250,000 in the first instance, another and more satisfactory instrument exists for extending financial assistance to new or expanding secondary industries. Before deciding whether the balance of the original £500,000 (£55,000 has already been earmarked for the Pilot Ground-nut Scheme, and the Member for Agriculture and Natural Resources has asked that this be increased to £75,000 in the light of experience gained so far; £12,000 for Tobacco Advisers; and £1,000 for a demonstration tractor for the Eastern Province) should be regarded as redundant and the money applied to some other purpose, it is necessary to consider what future requirements may arise for "Agricultural Development". This is difficult in the absence, as yet, of formulated plans, but, on the recommendation of Members of the Development Authority, a sum of £250,000 has been retained for the financing on an economic basis of agricultural marketing schemes such as rationalisation of cattle marketing facilities; centralised potato, onion and egg marketing; and cold storage of beef. In addition the Development Authority is of the opinion that provision should be made for high-level investigation of the agricultural and irrigation potential of the Bangweulu–Luapula and Kafue Basin areas. A provision of £100,000 for this purpose has accordingly been included in this section of the Plan. At the same time, on the representations of the Registrar of Co-operative Societies as contained in his note at Appendix 6, it is proposed that the sum of £100,000 should be diverted from the balance of the original provision for Agricultural Development and Marketing and Development of Secondary Industries to "Loans to Co-operative Societies". This adjustment is illustrated as follows:

	Allocation from Development Plan as at 1st January, 1951.	*Revised cost of short-term schemes.*	*Revised cost of works including new works.*	*New money required.*
	£	£	£	£
Agricultural Development and Development of Marketing Schemes	500,000			
Ground-nut Scheme		75,000		
Agricultural Investigations ...		100,000		38,000
Agricultural Marketing Schemes			250,000	
Demonstration Tractor, Eastern Province		1,000		
Tobacco Advisers		12,000		
Loans to Co-operative Societies	20,000		120,000	
TOTAL	£520,000	£188,000	£370,000	£38,000

SECTION 15

Mineral Investigations

58. A grant of £67,600 has been received from a central allocation for geological investigations of Colonial Development and Welfare Funds to meet the cost of the much-needed Geological Survey of Northern Rhodesia. An application has recently been made to the Secretary of State for the Colonies for this grant to be increased to £73,600 and his decision is awaited. The Chief Geologist is now engaged in collecting staff to carry out the survey. The Development Authority has had discussions with the Chief Geologist and is of the opinion that there is a need for the Geological Survey to be supplemented by a parallel investigation into the mineral resources of the Territory (other than coal, which has already been provided for) directed towards the early development of mining industries. The Authority has, accordingly, recommended to Government that the staff of the Geological Survey be augmented to enable these investigations to be carried out during the remaining years of the Development Plan, with a view to the collection of information which will be of value to the economic development of the Territory's minerals. This work of mineral investigation, undertaken in conjunction with the long-term regional geological survey, will, it is hoped, enable results to be obtained which may accelerate industrial development. The cost of augmenting the Geological Survey to undertake this work is estimated to be £143,000. Consideration has been given to the formation of a permanent Geological Department which will combine the Geological Survey and Mineral Survey. Should this proposal receive the approval of the Legislature the expenditure under the Mineral Head would be excised from the Plan, as a considerable portion of it is of a recurrent nature.

SECTION 16

Veterinary and Livestock Industry

59.

Allocation from Development Plan as at 1st January, 1954.	*Revised cost of short-term schemes remaining in the Plan and recurrent expenditure already charged to the Plan.*	*Revised cost of capital works including new works.*	*Recurrent Expenditure, 1957*	
			Permissible.	*Required.*
£	£	£	£	£
485,929	50,492	242,951	192,000	190,000

60. *Veterinary Policy.* The three main lines on which veterinary development was first planned in 1944 remain the same:

(*a*) Maintenance of an improved standard of animal health.

(*b*) Application of methods calculated to stimulate increased production.

(*c*) Introduction of better methods of marketing and industrialisation of livestock.

All these three objectives will result in a largely increased livestock population and better utilisation of livestock. In a territory where nearly 40 per cent. of the meat requirements still has to be imported and nearly all the requirements of bacon, butter and cheese, an early increase in the livestock population of all kinds is basic to any plan for development.

61. *Progress So Far.* Improved systems of disease control have already been established by the Veterinary Department over the worst and most crippling of animal diseases. Pleuro-pneumonia has been completely eradicated. Trypanosomiasis in being brought under increasingly tight control, thereby reducing mechanical transmission to a minimum. Losses of cattle due to sporadic diseases such as anthrax and quarter-evil have been steadily reduced as a result of preventive measures. Simpler, but no less effective, methods of controlling foot and mouth disease have been evolved. There have been numerous African staff increases in the department—over 120 graduates from the African Veterinary School are now employed throughout the Territory. The result of all these measures, which are part of the department's development plan, has been an increase in the cattle population of Northern Rhodesia from a basic figure of 640,000 head in 1943 to 930,000 head at the end of 1950.

62. *European Cattle Industry.* Improved producer prices and the operation of assistance schemes to subsidise the importation of breeding stock and pay a bounty on good cattle management have stimulated production. But if those considerable areas of Northern Rhodesia which are becoming known to be suitable for large-scale ranching, particularly in the Northern Province, are to be developed for the general benefit of the Territory and its meat and milk supplies, it seems that operations on a much larger scale, either by Government or the Colonial Development Corporation, must be launched. With the high initial capital cost of ranching, perhaps institutional development would be the best; but if the individual farmer is to be allowed to enter this field he will require to be assisted not only with finance but with improved communications. It is possible that the Colonial Development Corporation can be interested in a pioneer ranching scheme.

63. *African Cattle Industry.* Now that disease problems are in course of being overcome the policy will be to give more attention to objectives (*b*) and (*c*) in paragraph 60 above—namely, the inculcation of better livestock management and the introduction of improved marketing systems. A big step forward has been taken with the decision to aim in future at sale and purchase on *weight and grade*, and the weigh-bridges bought, and to be bought, should assist greatly in this direction.

64. *Importation of Native Livestock from Tanganyika.* A most important feature of the Veterinary development plan is a scheme for the importation over a period of four years of 8,000 livestock from Tanganyika. Some 700 cattle have been imported and will be contained in the Northern Province above latitude 12° in the first year. This scheme will have a tremendous influence for good on the Peasant Farmer and Improved Farmer schemes in this area.

65. The table in paragraph 59 above, amplified by Appendix 7, illustrates that there will be a saving in capital works provision in the Veterinary Department's revised development plan of £192,486, largely resulting from the transfer to departmental head of some £277,000 of recurrent expenditure. On the other hand the heavy and important programme of work facing the department justifies the estimated recurrent departmental expenditure by 1957 of £190,000. As stated above Government may have to consider later, when fresh plans can be formulated and ranching areas demarcated, the provision of capital assistance towards the establishment of such an industry, or alternatively the encouragement of ranching on a large scale by the Colonial Development Corporation or some similar body.

SECTION 17

Forestry

66.

Allocation from Development Plan as at 1st January, 1951. £	*Revised cost of short-term schemes remaining in the Plan and recurrent expenditure already charged to the Plan.* £	*Revised cost of capital works including new works.* £	*New money required.* £	*Recurrent Expenditure 1957*	
				Permissible. £	*Required.* £
287,925	115,892	248,446	76,413	173,000	170,000

(For details of these figures, *see* Appendix 8.)

67. The increase of approximately £76,000 for "new works" is required partly for staff houses, labour lines, offices and stores in connection with new or extended plantations at Bangweulu, Chisamba, Choma and Kasama, and for the Territory's share of the Forestry Research Station Scheme which envisages the establishment of pilot plantations at Choma and Bangweulu. Provision is also included for the proposed Forest Training Centre at Mwekere which will cost a total of £28,000.

68. The Forestry Department's revised development plan, including research schemes, is shown in Appendix 8. After deducting £35,950 from the total revised cost in respect of research schemes financed otherwise (as explained above) the total revised estimate of cost is £364,338, representing, as illustrated above, an increase of £76,413 over the Forest Plan as at 1st January, 1951.

69. The case, briefly, for this increased expenditure and for an increase in the department's recurrent expenditure is the need, by research and new planting, by scientific utilisation, and proper silviculture, to restore and rehabilitate the Territory's forest estate while at the same time meeting the Territory's timber requirements, so far as these can be met from local species. From the point of view of preserving, while utilising, a national asset the case is unanswerable: but, even from the mundane money aspect, the expenditure is a good investment for posterity.

SECTION 18

Game and Tsetse Control

70.

Allocation from Development Plan as at 1st January, 1951. £	*Revised cost of short-term schemes remaining in the Plan and recurrent expenditure already charged to the Plan.* £	*Revised cost of capital works including new works.* £	*New money required.* £	*Recurrent Expenditure, 1957*	
				Permissible. £	*Required.* £
497,940	199,000	241,000	*—	125,000	112,000

(*NOTE.—Saving of £57,940.)

Except for the addition of the new Colonial Development and Welfare Fisheries Research Scheme, recently approved, and the Kafue National Park project, no major change or variation of the development plan of the Department of Game and Tsetse Control, which also looks after fish farming and fisheries, has proved necessary. Full details of the revised plan are given in Appendix 9.

71. *Fish Farming.* The department's preliminary experiments in fish farming at Chilanga have been successfully concluded, and sufficient scientific information is now available to enable fish farming to be progressively developed throughout the Territory. Development is commencing with demonstration fish farms at certain strategic points, which should in due course be self-supporting and provide necessary models for those interested in taking up fish production commercially.

72. *Game and Tsetse Control Department: Revised Development Plan Tsetse Control Schemes.* Apart from three Tsetse Control Schemes (in the Eastern Province, at Feira, and in the Kafue (North) Cattle Area) undertaken as matters of urgent social or economic necessity and financed from Colonial Development and Welfare Funds, which are now either concluded or drawing to a close, the department's tsetse

control plans allow broadly for two types of activities. First, fundamental investigation into the Territory's tsetse fly problem, under which head comes a three-year field survey to define the limits of fly infestation and indicate lines of future control, coupled with an insecticide research programme to investigate the possibility of applying recent advances in the use of insecticides to the problem of fly eradication under local conditions; second, a series of limited-life schemes, as in Kalomo and Namwala Districts, designed either to eliminate the danger of sleeping sickness or cattle trypanosomiasis from borderline areas where such threat exists to established settlements, or to clear infested areas required for settlement under the Territory's intensive development plans.

73. *Joint Fisheries Research Scheme.* This scheme is for the establishment of a Fisheries Research Station at Samfya on the shores of Lake Bangweulu, with a substation on Lake Nyasa. Its importance lies in the fact that the development of the fisheries and the fish farming industries in both countries cannot proceed to the fullest extent and efficiency except on the basis of a sound knowledge of fish populations and characteristics, which must be derived from research and experiment. The total cost of the five-year initial scheme is £89,000, of which Northern Rhodesia and Nyasaland have agreed to defray jointly for the first five years half of the recurrent expenses (£27,000 a year), the other half (£27,000) and the whole of the capital cost (£35,000) being met from the Colonial Development and Welfare Central Research allocation. A Senior Principal Scientific Officer has been loaned temporarily to inaugurate the project, and building work is already in hand.

74. *Kafue National Park.* The present preliminary development scheme, which promises great success and a game park equal to any in southern Africa, ends in 1954. It is proposed that, thereafter, the project should be financed and controlled independently once a clear policy for its future has been settled in the light of the first five years' experience.

SECTION 19

Rural Development

75.

Allocation from Development Plan as at 1st January, 1951. £	*Revised cost of short-term schemes remaining in the Plan and recurrent expenditure already charged to the Plan.* £	*Revised cost of capital works including new works.* £	*New money required.* £
1,498,813	23,295	976,705	*Saving* 498,813

76. *Long-Term Objectives the Same.* The long-term objectives of African Rural Development were set out in paragraphs 147–179 of the Ten-Year Development Plan, 1947. This planning, together with the means by which it was to be achieved and the technique to be followed, have all proved fundamentally sound and remain unchanged. The 1948 review of the Ten-Year Development Plan recorded, however, in paragraph 62 that "The programme of Rural Development for 1948–49 has been radically altered so as to increase the tempo of development and achieve as soon as possible the first major territorial objective of increased food production—while at the same time maintaining and increasing soil fertility and checking soil erosion. This is a formidable undertaking as it means nothing less than a revolution in African agriculture."

77. *Social Implications of Revolution in African Agriculture.* There now remains the complicated problem of how a revolution in African agriculture is to be achieved. It must be rapid. It must also win the full support of Africans generally if any advance is to be permanent. The problem is further complicated by the fact that while it is impossible to exaggerate the importance of stable agriculture in rural areas, it is not an end in itself but merely the essential starting point in a wide programme of overall development and social evolution. It follows that the pattern of agricultural settlement must be such as to encourage progress in other directions but within the framework of a progressive African social order.

78. *"Improved Farmers" and "Peasant Farmers".* The ideal pattern of agricultural settlement and progress has yet to be discovered. The "Improved Farmers" scheme in the Mazabuka District has expanded rapidly during the last two years and may well be regarded as an indication that progressive farmers will be willing to adopt a standard of agriculture far in advance of the average when sufficient financial inducement can be offered to them. Agriculturally this is a great gain, but indiscriminate and uncontrolled development of African land holders in congested areas of Native Trust Land raises social questions of first magnitude. The Peasant Farming Scheme is an attempt to use the same incentives as are provided to "improved farmers" but to present them in a somewhat different form while at the same time integrating the farmers into the social structure of their tribe. The year 1950 was the first in which the financial implications of the Peasant Farming Scheme could be assessed, and the results were more than promising. Government must now decide if this scheme should await the final assessment of its value (which can only be given after a period of possibly five years) or if the need for Rural Development is so great that expansion of the scheme should take place as rapidly as staff and funds permit.

79.—*Best Utilisation of Staff and Money Resources.* The lack of skilled European staff to supervise Area Team projects led to the abandonment of the original conception of general territorial development

and thus to a modification in Rural Development policy. The following three categories have been adopted for classifying the rural areas for the purpose of development plans:

(i) *Intensive Development Areas* which, owing to natural advantages of soil, water, access to markets and the like, would naturally yield the highest return for effort made to develop them.

(ii) *Development Areas* which are capable of intensive development and will receive it when staff and funds become available.

(iii) *Other areas* which appear to be too poor in quality to maintain a concentration of population earning a reasonable living from the land.

It appears logical that when available staff and funds are limited the initial effort should be made in regions best suited to it.

80. *Health and Nutrition Scheme, Kawambwa District.* Following the survey of the Kawambwa District in 1949 by Dr. Dean Smith, of the London School of Tropical Medicine, it has been decided to proceed with a pilot scheme there with a view to improving the health and nutrition of the dense population by teaching them better methods of agriculture and the diversification of crops, and at the same time instituting preventive and clinical medicine. An application for a Colonial Development and Welfare grant of £55,660 to cover capital and special expenditure has now been approved by the Secretary of State, and it is proposed that the recurrent expenses will be met from the departmental votes of the departments concerned. The scheme, which will continue for five years, will be operated by the Western Province Area and Provincial Development Teams.

81. *Reduction in Funds Required for Rural Development.* (*See* Appendix 10.) One further modification should be mentioned. The original Rural Development allocation of £1,498,813 has been reduced to £1,000,000. The reason is that nearly all Rural Development projects now require a considerable measure of self-help from the Africans who benefit from them, and many projects require financial repayment in whole or in part. It is planned that these repayments will be available to finance additional projects in the future. It should also be mentioned that indications at this halfway stage in the Plan point to the fact that it will not be practicable to spend in full the original provision, and a sum of £1,000,000 is a more realistic figure.

82. Progress on the various schemes in the 1951 Development Fund estimates is summarised below:

Sub-head 182—*Development Centre Capital Works.* The Development Centre at Namushakende, near Mongu in Barotseland, is still in the construction stage and as a result of a recent change of policy has now become the headquarters of the Area Team and is no longer a Development Centre. It is liable to considerable modification and a reduced capital expenditure as a result of changed plans for medical and health training and other reasons.

Sub-head 186—*Development Areas Capital Works.* Rural Development building has been undertaken in the following Districts: Kabompo, Solwezi, Fort Rosebery, Kasama, Serenje, Katete and Mumbwa, where the building programmes are now almost complete. Of the three remaining Development Districts nothing has yet been done in the southern portion of Barotseland. No final decision has been reached about the Southern Province Area Headquarters which were to be sited near Monze and where difficulties have been encountered over the provision of an adequate water supply. In Abercorn the building foreman has concentrated on the Agricultural School.

Sub-head 188—*Development Areas Recurrent.* A large range of rural projects has been undertaken, the more important of which are the Peasant Farming Scheme, the Mweru Marsh Fisheries Scheme and drainage experiments in Barotseland.

Sub-head 191—*Headquarters Expenditure.* Covers the cost of travelling and the office of the Commissioner for Native Development in Lusaka.

Sub-head 193—*Expert Investigations.* No change proposed.

Sub-head 194—*Import of Cattle from Tanganyika.* During 1950 plans were completed for the purchase of cattle in Tanganyika and, as a result of the organisation worked out by the Director of Veterinary Services, at the end of the year some 700 head of cattle arrived safely at Abercorn. Distribution was undertaken by the Northern Province (Northern Areas) Team in the Abercorn and Isoka Districts, and in addition a number were allocated to Kasama and Mporokoso. Distribution to Africans has been based upon an undertaking by the latter to return identical beasts after four years and upon an undertaking to farm on certain approved lines. It is not yet known whether further purchases of Tanganyika cattle will be forthcoming in 1951 as was originally hoped.

Sub-head 195—*Lukanga Swamp Hydrological Survey.* This scheme has been completed.

83. As stated in an earlier section of this review rural development is bound to affect the availability of labour for industry. This must be faced and accepted in view of the great contribution to better standards of African living and to the food supplies of the Territory that sound rural development can offer. Equally it must be accepted that the creation of a stable industrial population to serve industry in the towns must carry with it greater social security than present conditions offer.

SECTION 20

Water Development and Irrigation

84.

	Allocation from Development Plan as at 1st January, 1951. £	*Revised cost of short-term schemes remaining in the Plan and recurrent expenditure already charged to the Plan.* £	*Revised cost of capital works including new works.* £	*New money required.* £	*Recurrent Expenditure, 1957*	
					Permissible. £	*Required.* £
Water Supplies	650,825	19,175	800,825	169,175	295,000	184,710
Irrigation	293,789	10,956	282,833	—		

In the 1948 review of the Development Plan £670,000 was provided for Water Supplies and £300,000 for Irrigation. From the above figures it will be seen that the Director of Water Development and Irrigation requires a further £169,175 in respect of Water Supplies. It should be explained that of this amount £51,000 has already been incurred on *urban* piped water supplies, which are now considered to be a more appropriate charge to " Public Works Extraordinary " (*see* Appendix E of 1951 estimates). The sum of £670,000 for Water Supplies provided in the original Plan was the estimated requirement for rural water supplies only, including water conservation, dams, wells and weirs, but not for piped urban supplies.

85. The progress of the department's work to date is indicated in the department's annual report for 1950 and summarised in Appendix 15.

SECTION 21

Health

86.

Allocation from Development Plan as at 1st January, 1951. £	*Revised cost of short-term schemes remaining in the Plan and recurrent expenditure already charged to the Plan.* £	*Revised cost of capital works including new works.* £	*New money required.* £	*Recurrent Expenditure, 1957*	
				Permissible. £	*Required.* £
1,700,000	27,500	1,924,500	252,000	855,000	1,112,000

87. *Recurrent Expenditure.* A disquieting feature of the revised Health plan is that normal departmental expansion plus the recurrent expenditure commitments arising from the ... capital works proposed have resulted in the 1957 recurrent expenditure " ceiling " of £855,000 being substantially exceeded. Investigation has shown that, having regard to increasing costs, a recurrent expenditure of nearly £800,000 by 1957 would be involved if the *present* Health services are to be maintained and developed to meet the Territory's requirements without any of the new capital works or projects proposed in the revised Health plan; and that the recurrent expenditure arising from the latter, if all the buildings are built and *staffed* by 1957, amounts to a sum of only £300,000 odd.

88. Full details of the new Health plan, which last year received exhaustive consideration both locally and in London, are given in Appendix 11. It has been considered necessary, however, since the plan was prepared, to increase the total provision for it by £252,000 which is the estimated sum required for the completion of the Broken Hill Hospital. This hospital, estimated to cost £150,000 in 1948, will by the time of its completion by the end of 1951 have cost £700,000 due to the method of construction employed, namely on a " parallel planning " basis under a management fee contract during a period of rapidly rising building costs. There is no doubt, however, that this magnificent building, containing as it does workmanship of a very high standard, will be among the finest hospitals in Southern Africa.

89. *Capital Works.* It is a matter of some doubt whether all the buildings can be built and staffed by 1957—although all are necessary—but on the other hand it is strongly felt that the Health Department must operate to some broad plan in developing the Health services of the Territory even if that plan cannot be fully completed by 31st December, 1956.

90. The revised Health plan now presented is, therefore, recommended for acceptance on the understanding that it may not prove physically possible to complete the whole programme of works before the end of the decennium and that the future budgetary circumstances of the Territory should be borne constantly in mind before each major new work is begun and may necessitate some curtailment of the capital works programme in order to limit recurrent departmental expenditure to what the Territory can afford.

91. One way of avoiding or reducing such curtailment of what are, after all, important and necessary works would be to increase the fees for medical services rendered or to introduce fees where these are not already charged; and, where Africans are concerned, for Native Authorities increasingly to assume financial responsibility, under the guidance of the Health Department, for local health services, both preventive and curative, as their ability to do so—*cash, competence and consent*—increases. This was recommended by the Financial Relationship Committee and has already been adopted by Government. Ways and means of implementing it are now being examined.

SECTION 22

European Education

92.

Allocation from Development Plan as at 1st January, 1951. £	*Revised cost of short-term schemes remaining in the Plan and recurrent expenditure already charged to the Plan.* £	*Revised cost of capital works including new works.* £	*New money required.* £	*Recurrent Expenditure, 1957*	
				Permissible. £	*Required.* £
981,550	—	3,396,666	2,415,116	*	940,397

(*NOTE.—As explained in paragraph 10 above a total of £1⅓ million was fixed as the permissible "ceiling" for the recurrent expenditure by 1957 of *both* education departments.)

93. *Revised Plan for European Education.* The Director of European Education has submitted a detailed revised plan for his department for the six-year period 1951 to 1956. This is reprinted at Appendix 12. The revised figure of capital expenditure involved shows an increase of £2,415,116— from the £900,000 provided in the 1948 review to a total capital expenditure of £3,396,666 now proposed for the ten years 1947–1956. In considering these revised figures account must be taken of two factors— the capital cost figures used, although carefully based on present levels and a realistic appreciation of trends, may prove too low; and the estimate of 13,370 children in primary and post-primary classes in 1957 may prove incorrect and would be invalid if the school leaving age were raised to sixteen. On the other hand the figures are the most accurate that can be produced on the information at present available.

94. As has been rightly pointed out by the Director in the opening sentence of his revised plan, and by the Administrative Secretary who is responsible for the policy of the department, the department has no means of *controlling* the demand for school and hostel buildings, that is of limiting to a precise figure the European school population. The Government having undertaken as a matter of policy to provide universal European education, every child must be accepted and arrangements made for its reception and teaching. As the European population goes up so must the expenditure on European education. Economies in capital cost can be effected by insisting on day schools rather than on boarding schools wherever possible (as is already proposed on the Copperbelt) and by the avoidance of luxury in the standard of accommodation provided. But no one would wish to economise by an appreciable lowering of the standard of education provided.

95. The construction of all the building works necessary for this department will be a very formidable task, and unless means are shortly found of expanding to a considerable extent the building capacity of the Territory there is little, if any, hope of a solution being found by the end of the plan to the problem of accommodating the number of non-native schoolchildren who will require education at that time. The Development Authority is now very actively engaged in investigating every possible means of accelerating constructional work and increasing the territorial output to this end.

96. The charging of tuition fees for both European and African education (both pay boarding fees already) would ease the burden of Northern Rhodesia's ever-mounting recurrent charges for education. Both communities might well place a considerably higher importance on the regular attendance at school of their children if fees were charged.

SECTION 23

African Education

97.

Allocation from Development Plan as at 1st January, 1951. £	*Revised cost of short-term schemes remaining in the Plan and recurrent expenditure already charged to the Plan.* £	*Revised cost of capital works including new works.* £	*Recurrent Expenditure, 1957*	
			Permissible. £	*Required.* £
1,463,363	45,316	874,900	*	700,000

(*NOTE.—As explained in paragraph 10 a total of £1⅓ million was fixed as the permissible "ceiling" for the recurrent expenditure by 1957 of *both* education departments.)

The Director of African Education has submitted an "adjustment plan" which provides for the revised cost of the original 1947 African Education plan; for the cost of additional facilities required for trades training; for Development Area Schools originally included under African Rural Development (Head III of Approved Plan); for the increased primary education needs of the urban areas; and for the now-surveyed minimum requirements of the Territory of Standard VI, Junior Secondary and Senior Secondary pupils, previously underestimated. The adjustment plan also provides for expansion towards universal elementary education on the assumption (which may prove unrealisable in the foreseeable future) that the Native Authorities will meet the recurrent costs of this in rural areas, estimated at £120,000 per annum by 1957. The Director emphasises that this last objective should be regarded as an aim of policy by the Native Authorities and that this is a "desirable" rather than essential section of his plan.

98. This new plan for African Education envisages recurrent expenditure of £770,000 per annum, of which £70,000 will be provided by Native Authorities, by 1957 (£498,000 in 1951). This total covers the cost of proposals for establishing Local Education Authorities and a Unified African Teaching Service

for all approved teachers in maintained and aided schools. As foreshadowed in His Excellency's address to the Legislative Council on the 4th November, 1950, steps are being taken to increase the financial responsibility of Native Authorities for education up to Standard IV in their areas in accordance with the recommendations of the Financial Relationship Report, and it is proposed that boarding grants should be the first big item to be taken over by them. It is also proposed that the Central Government's financial liability for teachers should be restricted to their salaries, cost-of-living allowance and pensions and that Native Authorities should be responsible for all other expenses of the teachers serving in their areas. The draft Bill, if passed, will facilitate application of these financial arrangements and ensure adequate local control of education and of the teaching service. The "permissible ceiling" of £1½ million for both education departments (referred to in paragraph 10 above) has necessitated arbitrarily fixing, for the time being, the Central Government's expenditure on African Education at £700,000, leaving a balance of £70,000 to be found by Native Authorities by means of their rating powers, and it is obvious that the unexecuted portion of the original 1947 Plan and urgent inescapable demands for expansion must have first call on any funds raised by Native Authorities.

99. It is convenient to summarise here the main increase of recurrent expenditure by 1957 under the three sections of the Director's adjustment plan and then to indicate the proposed division of responsibility between the Central Govgernment and the Native Authorities. The order of the sections given below indicates their priority according to the availability of funds:

Section I: Revised cost of original 1947 Approved Plan. Increase from £336,000 (paragraph 58 (*c*) of Approved Plan) to £584,000 made up as follows: £29,000 for Development Area Schools included under African Rural Development in the 1947 Plan and £219,000 for increased costs of salaries and materials. It is sufficient to note that the salary scale for elementary school teachers which ranged from £21 to £90 per annum in 1947 now ranges from £51 plus £10 cost-of-living allowance to £141 plus £14 cost-of-living allowance, and that the equipment grant (based on a minimum scale laid down by the department) for a pupil in the lowest class which was 1*s.* in 1947 is now assessed at 2*s.* 6*d.* Under the department's present policy of consolidation, which will continue, the number of pupils in elementary schools has increased by less than 1,000 from 125,107 in 1947 to 126,006 in 1951.

Section II: Essential expansion not included in the original 1947 Plan—£150,000. This comprises:

(1) Trades Training. Places increased from 150 to 1,140. Additional cost £47,000.

(2) Increased Secondary Education as recommended in paragraph 140 of the 1948 review of the Ten-Year Plan—750 places instead of 325. Additional cost £27,000.

(3) Increased Upper School facilities based on the 1948 survey of minimum requirements—5,000 places instead of 3,750. Additional cost £19,000.

(4) Increased Primary Education for the urban areas—38,000 places instead of 18,000. Additional cost £57,000. Compulsory education for the 12–16 age group in the Copperbelt has had to be abrogated, but as accommodation becomes available it will be reintroduced for the 8–14 group in accordance with paragraph 61 of the 1947 Plan.

The division of financial responsibility for recurrent expenditure by 1957 may now be summarised:

	Central Government	*Native Authorities*	*Total*
	£	£	£
(*a*) Sections I and II of New Plan	683,000	44,000	727,000
(*b*) Local Education Authorities and Unified Service Teaching Schemes	17,000	26,000	43,000
	£700,000	£70,000	£770,000

100. Perhaps the most valuable feature of the Director's new plan is that it emphasises the need for elasticity and periodical adjustment factors which are apt to be overlooked when financial rather than social requirements largely determine plans. It is obvious, however, that pending decisions on the extent to which Native Authorities will be able to contribute to the cost, African Education must continue and financial provision must be made for its urgent and inescapable demands for expansion—such as for more schools—and staff in the compulsory school attendance areas and for an expanded 400-pupil African secondary school at Lusaka. Token provision of £874,900 for capital expenditure has therefore been inserted in the revised territorial plan now presented, and as stated above the permissible recurrent expenditure of the department by 1957 has been arbitrarily fixed, for the time being, at £700,000. The cost of the present proposals, which are also set out at Appendix 13, may be summarised as follows:

Capital	£	£
Government School Buildings	312,400	
Building Grants to Missions	122,500	
Building Grants to Village Schools	162,500	
Development Area Schools	43,500	
David Livingstone Secondary School	190,000	
Technical School, Munali	12,000	
Industrial Training Centre	32,000	
		874,900

It is assumed Native Authorities will continue to make contributions ranging from 10 per cent. to 25 per cent. of the cost of village school buildings in their areas.

	£	£
Recurrent		
Mass Literacy	5,000	
Grants to Boy Scouts and Girl Guides Associations	2,050	
Recurrent expenditure up to 31st December, 1949 (since borne by the departmental vote)	38,266	
		45,316
		£920,216

SECTION 24

Urban African Housing

101.

Allocation from Development Plan as at 1st January, 1951.	*Revised cost of short-term schemes remaining in the Plan and recurrent expenditure already charged to the Plan.*	*Revised cost of capital works including new works.*	*New money required.*
£	£	£	£
1,000,000	—	3,140,000	2,140,000

Details in support of the above request for a further £2,140,000 for what is called "Local Authority African Housing" are given in the Commissioner for Local Government's memorandum which is reprinted at Appendix 2, in which he has dealt with the African housing problem both of non-Government urban Africans and African Civil Servants.

102. *Number of Houses to be Built Related to Building Capacity, not Demand.* The number of houses to be built with this new money, as with the sum of £710,000 for African Civil Servants' staff housing, provision for which was made in paragraphs 28 and 29 above, do *not* represent what is required but what can be built (when the present African housing contracts under the original £1 million urban African housing and £½ million African Civil Servants' housing schemes are completed in mid-1952) in the years 1952 to 1956.

103. *Possible Reductions.* The only reduction possible in this large sum, which the local authorities concerned may not have at present the capacity to service if the money were granted to them by way of loans, would be to reduce the proportion of three-roomed houses to be built from 3,600 to, say, 2,500, and to increase the number of two-roomed houses to be built correspondingly at a saving of £120 a house. (A possible saving of, say, £132,000.) The Commissioner for Local Government has emphasised, however, the demand by better-class Africans, who are prepared to pay the higher rent, for a three-roomed house—living-room and two bedrooms—in preference to the standard two-roomed type of house—living-room and one bedroom—built so far. The case for a larger house for the African with children seems unanswerable.

104. As a result of discussions at a meeting of representatives of local authorities in January, 1951, in the course of which some delegates expressed the view that local authorities should be given the opportunity of implementing their own housing schemes, it being their contention that by this means more rapid results might be achieved than has been possible in the past, it has been agreed that this procedure should be carried out as an experiment. To enable a start on the scheme to be made in 1951 a token sum of £350,000 has been appropriated from territorial funds.

105. *Continuation of Scheme of "Sub-economic" Housing.* The scheme for the leasing of these houses by local authorities at a sub-economic rental with a diminishing subsidy, as described in paragraphs 222–224 of the original Ten-Year Development Plan, remains the same. The amount of Government subsidy is being reduced at the rate of a shilling per month each year, but with the increase of the cost of the standard two-roomed house to a figure approaching £200, entailing an *economic* rent of about 22*s.* a month, there is still a long way to go in the gradual reduction of this subsidy.

106. It is hoped that local authorities will increasingly facilitate Africans who have the cash and competence to build their own houses in urban layouts by the sale of plots at nominal figures and the provision of services and by not insisting on too high building conditions. An African, as a European, is a better man for owning his own house and having a house of which he can be proud.

SECTION 25

Northern Rhodesia Police

107.

Allocation from Development Plan as at 1st January, 1951.	*Revised cost of short-term schemes remaining in the Plan and recurrent expenditure already charged to the Plan.*	*Revised cost of capital works including new works.*	*New money required.*	*Recurrent Expenditure 1957*	
				Permissible.	*Requ*
£	£	£	£	£	£
96,156	—	276,156	180,000	730,000	495,0

108. The requirements of the Northern Rhodesia Police—European and African staff housing, Police Training Depot, Mobile Police Camp, and Police Stations and office blocks in various parts of the Territory are either already in course of construction or are dealt with under other sections of this re

(cf. paragraph 33 regarding the Mine Police substations). Only the five Mine Police substations, the Police Depot at Lilayi near Lusaka, and the Headquarters buildings are financed from the Development Fund, all other specific Police works, excluding staff housing, being financed either under the head "Public Works Extraordinary" or the new head in the 1951 territorial estimates "Extraordinary Works to be Executed by Departments". No increase in the provision originally included in the 1948 review of the Development Plan for Police works is required other than £180,000 for the three Mine Police substations already mentioned. Works being, or to be undertaken by the Police department, will be supervised, as is the case with other departments doing some of their own building, by P.W.D. building staff seconded for that purpose.

SECTION 26

Prisons

109.

Allocation from Development Plan as at 1st January, 1951.	*Revised cost of short-term schemes remaining in the Plan and recurrent expenditure already charged to the Plan.*	*Revised cost of capital works including new works.*	*New money required.*
£	£	£	£
172,000	—	275,500	103,500

Under the Loan section of the Development Plan as reviewed in 1948, the sum of £172,000 was provided under "General Building Programme" for new prison buildings. Little building has been done so far against this provision, but with the appointment of a new Commissioner of Prisons a Prisons Development Plan, involving penal reforms and resulting modifications of the penal laws, has been presented, together with detailed proposals for the construction of the new prison buildings required by the department at a total cost of £275,500, including £75,500 for European and African staff housing which, in the special circumstances of this department, where all housing is strictly "departmental", is provided for separately and not from the European and African staff housing block votes. £103,500 of new money is thus required.

110. The design of future prison buildings proposed is in accord with the latest thought and practice on the subject, a common master design being applied, with such reductions or variations as local conditions warrant, all prisons being extendable to meet changing needs.

111. The implementation of the Prisons Development Plan is not likely to exceed the permissible ceiling of departmental recurrent expenditure by 1957 of £115,000—although Prisons recurrent expenditure, a large part of which is food supplies for prisoners, varies with the prison population of the Territory and is therefore somewhat beyond departmental control.

SECTION 27

Tourist Development

112.

Allocation from Development Plan as at 1st January, 1951.	*Revised cost of short-term schemes remaining in the Plan and recurrent expenditure already charged to the Plan.*	*Revised cost of capital works including new works.*	*New money required.*
£	£	£	£
20,000	—	20,000	—

113. In the 1948 review it was recorded that the Development Authority attached the greatest importance to the encouragement of a sound and healthy tourist industry. The sum of £20,000 was then earmarked for this purpose, and as a preliminary step a full-time Tourist Officer was engaged and a Tourist Office was opened in Livingstone, of which the Livingstone Municipality agreed to pay half the cost. The Tourist Officer has produced, or has in the course of production, eighteen pamphlets and other publications designed to attract tourists to Northern Rhodesia. The *Northern Rhodesia Handbook* has been completely revised and rewritten by him, and he has initiated and maintained the closest liaison with tourist associations outside the Territory. In conjunction with the Department of Game and Tsetse Control, he has engineered and steered through its first season Conducted Hunting Parties to the Luangwa Valley.

114. A sum of £7,000 was also set aside for the construction of two rest houses, one at Chirundu on the Lusaka–Salisbury road, and one at Mile 195 on the Fort Jameson road. Owing to the fact that an hotel is now to be built by a private person at Chirundu, the project for a Government rest house there has been shelved, and a portion of the money hypothecated for the construction of the rest house at Mile 195 on the Great East Road, as increased traffic between Lusaka and Fort Jameson since the end of the war and increased building costs showed the necessity for the allocation of a larger sum than had been originally estimated.

115. A review of the tourist possibilities has now shown that though there are undoubted centres of tourist attraction to the Territory, the most obvious of which is Abercorn and the surrounding district, two factors outside the Tourist Officer's control have limited their exploitation in the past, and continue to do so. They are roads and hotels.

116. Roads are steadily being improved as a major part of the Development Plan. The hotel position is more complicated. It is considered that the hotel industry is one in which Government ought not, if possible, to become implicated. Nevertheless, Government now owns one hotel, and will have a large interest in a second, principally because of the lack of interest on the part of private enterprise in hotel projects in the country. Legislation has recently been passed setting up an Hotels Board with authority to inspect and classify hotels, and to take steps to see that a higher standard of accommodation and service is offered.

117. It is proposed that the Tourist Officer should continue in his present efforts along general lines, and for this purpose only a slightly larger sum of money than that already earmarked will be necessary. The time has come, however, to consider the continuation of his functions after the Plan comes to an end in 1956. A proposal is now before Government for the formation of a Tourist Development Corporation on the lines of the East African Tourist and Travel Association. This is an association supported by various private enterprises in East Africa which benefit from the tourist industry and by the Governments of the East African territories. It has done very good work in improving facilities for tourists and increasing tourist traffic. Preliminary inquiries have been made among transport concerns, hoteliers, curio dealers, etc., in Northern Rhodesia, and it is apparent that considerable support would be forthcoming were such an association to be set up here.

118. It would probably be necessary for the Government to make a substantial initial grant for the establishment of the association, and thereafter to make an annual contribution—but such funds should, if approved, be a charge to revenue.

SECTION 28

Financial Summary

119. *Financial Results of the Review.* The financial results of this review are summarised at Appendix 16. That appendix shows that the revised cost of Northern Rhodesia's Ten-Year Development Plan, extending over the years 1947–1956, will, if the proposals made in this review are accepted, amount to £36,000,000. The previous figure of cost was £19,035,035. Both figures omit certain expenditure which is offset or will be offset by grants made from the research or other central allocations of the Colonial Development and Welfare Vote and not from the Northern Rhodesia allocation from that Vote: this expenditure is described in Appendix 17.

120. *Revised Cost of the Plan.* The revised figure of £36,000,000 is based on:

(i) a re-estimate, in the light of present prices, of the cost of the existing Plan;

(ii) the estimated cost of new items whose necessity has been made plain since the existing Plan was drafted in 1945, and which are now included in the Plan for the first time;

(iii) the best estimate which it is possible to make of the amount of works and services which can be undertaken before the period of the Plan ends.

The revised Plan has, however, deliberately been left flexible. Changes in world circumstances and particularly in international relations may well require a redirection of Northern Rhodesia's productive effort, and consequently a modification of its Development Plan.

121. *Sources of Additional Finance Required.* The course of Northern Rhodesia's revenues over a number of years is difficult to forecast, since a slight fall in the present high world price of copper would cause a considerable drop in territorial revenue; nor is it now possible to estimate how far increased productivity, to which the Development Plan must contribute, in economic fields other than mining would offset the effect of a fall in base metal prices. Nevertheless, it has been thought reasonable to estimate that territorial revenue for the remaining years of the Development Plan (1952–1956) will, on average, amount to £19 million a year. From this revenue the Territory should be able to provide towards the revised cost of the Plan, after meeting the recurrent costs of its services and making reasonable appropriations to reserve, the sum of £3½ million in 1952 and just under £2½ million a year during the remaining four years of the Plan. This will mean that territorial revenue will directly contribute £11 million to the £17 million of " new " money required for the revised Plan, the balance of £4 million being left to be found by borrowing.

122. *Loans.* The existing Plan of £19 million calls for the provision of £9 million by borrowing. So far £2½ million of this sum has been borrowed. The London money market, which is likely to be the main source of the Territory's external finances, has a limited capacity to absorb colonial loans, nor can extraordinary measures be taken to extend that capacity at a time when it is necessary to direct British resources into the United Kingdom defence programme; moreover, many colonies are competing for the finance which is available for colonial development. In these circumstances it is prudent to estimate cautiously the amount of money which may be made available for the Territorial Development Plan from external sources; and for the purpose of drawing up a financial framework for the revised Plan it is thought reasonable to assume that it will be possible to borrow to the extent of the balance of £9 million referred to above, and also an amount of £4 million in respect of the " new money " required for the revised Plan. The question may be asked whether the Plan would have to be curtailed if external loan finance, even on the scale here contemplated, should for any reason not become available during the currency of the Plan. The answer is that, provided that during that period not less than the original

£9 million is borrowed, the balance of £4 million could temporarily be supplied by borrowings from territorial reserves until the money could be otherwise raised.

123. *Revised Financial Structure of the Plan.* The proposed financial structure of the revised Ten-Year Plan may therefore be set out thus:

Cost of Revised Plan			£36,000,000
Sources of Finance:			
			£
Colonial Development and Welfare Vote...			2,500,000
Appropriations from Revenue:		£	
1947–1951		7,500,000	
1952–1956		13,000,000	
			20,500,000
Loan:			
Existing Plan		9,000,000	
Revised Plan		4,000,000	
			13,000,000
			£36,000,000

Towards the total cost of the Plan, amounting to £36 million, it will be seen that it is proposed that the Territory should make a contribution from its revenues of £20½ million and in addition should service loans totalling £13 million. It is important to record that in addition to this large contribution it is estimated that the Territory will also have incurred, during the period of the Plan, capital expenditure of some £6 million on public works which are or will be constructed under its Public Works Extraordinary Vote and which lie outside the Development Plan. Moreover, during the same period it will have assumed all the permanent recurrent expenditure generated by the Plan. It is difficult to arrive at a figure for this latter form of expenditure, since it is frequently not easy to distinguish recurrent expenditure arising from the Plan from recurrent expenditure on the normal expansion of services; it is, however, estimated that during the life of the Plan a sum of more than £25 million from local resources, including the £6 million on Public Works mentioned above, will have been spent outside the Plan on the development of the Territory.

124. *Conclusion.* It is recommended that the Revised Ten-Year Plan for Northern Rhodesia, as set out in this review, should be accepted, but attention must be drawn to the fact that if the second £4 million loan is not floated nor an equivalent appropriation made from territorial funds, it will not be possible to carry out the Plan in full. Further, if the territorial building capacity falls short of the building demands made in the Plan, some items will inevitably have to be omitted.

Signed:

L. F. Leversedge, *Chairman.*
J. F. Morris.
G. W. R. L'Ange.
G. F. M. van Eeden.
J. S. Moffat.
C. M. N. White.
V. Kenniff.

APPENDIX 1

Summary of "Building and General" Section

Head	Sub-head		Allocation 1-1-51	Revised Cost	Increase	Decrease
			£	£	£	£
99	101	Staff Housing—European (1948–1950) ...	1,125,000	1,125,000	—	—
98	305	Staff Housing—European (1950–1952) ...	875,000	1,000,000	125,000	—
99	102	Staff Housing—African (1948–1952) ...	500,000	500,000	—	—
98	307	Staff Housing—African (1951–1952) ...	100,000	100,000	—	—
99	103	P.W.D. Workshops	64,000	64,000	—	—
99	104	Stores Department Buildings, Lusaka and Ndola.	77,500	77,500	—	—
98	306	Stores Department Buildings, Lusaka and Ndola.	103,500	103,500	—	—
99	105	Silicosis Bureau	50,000	50,000	—	—
99	106	Police Camp—Wusikili	45,420	45,420	—	—
99	107	Police Camp—Luanshya Mine	50,736	50,736	—	118
99	108	Mental Ward, Ndola...	3,600	3,482	—	—
99	109	Transfer of Departments to Lusaka ...	508,000	743,215	235,215	—
99	110	Prisons	172,000	275,500	103,500	—
99	111	Aged Persons' Home	14,000	14,000	—	—
99	112	Plant and Equipment	45,000	45,000	—	—
99	113	Public Works Department Staff ...	16,000	14,981	—	1,019
		Staff Housing—European (1953–1956) ...	—	2,000,000	2,000,000	—
		Staff Housing—African (1953–1956) ...	—	710,000	710,000	—
		Police Mine Substations (3)	—	180,000	180,000	—
		Military Barracks, Bwana Mkubwa ...	—	300,000	300,000	—
		Balance unallocated	42,556	50,666	8,110	—
		TOTALS	£3,792,312	£7,453,000	£3,661,825	£1,137

APPENDIX 2

African Housing Requirements—Revised Development Plan

1. It is very difficult to provide an accurate estimate of the African housing shortage for which the revised Development Plan should cater. An accurate estimate should take into account the following factors:

(*a*) Predictable increases of the African population in towns or, in the case of Government departments, their African establishment.

(*b*) The number of houses which will go out of use by 1956.

(*c*) Some allowance for the increasing and desirable tendency for Africans to stabilise themselves in towns and to be accompanied by wives and children.

(*d*) Some allowance for rising standards of accommodation.

Ideally the preparation of such an estimate should be entrusted to one officer who would visit all stations and towns and follow consistent standards in his computations. In effect, the task can only be attempted by circularising a multiplicity of Government and Local Government Officers throughout the Territory who cannot be kept to uniform standards in assessing deficiencies and whose estimates are often unreliable.

2. The major consideration is, however, the fact that the result of such an investigation would yield a figure quite beyond the financial and material limits of the Development Fund. For this reason the Development Authority is asked to approve the allocation of a sum of £3,140,000. This figure is submitted, not as a sum which will enable the housing deficiency to be eliminated, but as a sum which might be spent in the Development Plan period in the light of experience with present contracts. The division of the sum between housing for local authorities and Government servants could be decided later.

3. The following tables showing the estimated African population in towns and the African establishment of Government departments for the years 1948, 1950 and 1956 are, however, submitted in justification of the request for this large sum of £3,140,000.

TABLE I

URBAN AFRICAN POPULATION ESTIMATES—1948, 1950, 1956

Town	*Estimated Population,* 1948	*Estimated Population,* 1950	*Estimated Population,* 1956. 10% *p.a.*	*Estimated Number of Houses Obsolete by* 1956
Ndola	11,500	33,670	50,505	1,415
Livingstone... ...	12,000	20,000	30,000	514
Lusaka	14,000	31,000	46,500	1,631
Broken Hill... ...	4,700	9,900	14,850	426
Kitwe	4,600	8,500	12,750	1,200
Luanshya	3,760	4,530	6,795	1,140
Chingola	1,900	2,700	4,050	223
Mufulira	3,000	4,200	6,300	500
Fort Jameson ...	2,800	5,540	8,310	957
Monze	100	250	375	80
Choma	480	2,000	3,000	300
Mazabuka	600	900	1,350	50
Kalomo	300	500	750	50
Pemba	250	400	600	105
TOTAL ...	59,990	124,090	186,135	8,591

NOTES:

(i) In 1948 an allocation of £1,000,000 was made for an estimated population of 59,990. This population figure (1948) was certainly an underestimate and the 1950 figures above are more reliable, having been computed with the benefit of access to Maize Rationing Returns. For this reason, therefore, the true increase of population between 1948 and 1950 is considerably less than the figures disclosed in the Table.

(ii) The estimate of population for 1956 rather arbitrarily presumes an annual increase of 10 per cent. This is not an excessive figure in the light of experience in the last few years, but it implies an urban African population three times the estimated population of 1948 which was considered to justify an expenditure of £1,000,000. Further support for an annual increase of 10 per cent. is found in the 1951 census figures just completed, which show an increase in the number of Africans in employment in the Central Province including farms, from 1946 to 1951 of 45 per cent., or 9 per cent. per annum.

(iii) The fourth column is an estimate of the number of houses which will be obsolete by 1956. Most of these houses are temporary and will have gone out of use before that time. It should be noted that, taking the cost of a permanent house at £200 for the period 1951–1956, the replacement of these houses without regard to the need for additional houses for increased population would need an allocation of £1,750,000.

TABLE II

AFRICAN ESTABLISHMENT: GOVERNMENT DEPARTMENTS—1948, 1950, 1956

Department	*Establishment,* 1948	*Establishment,* 1950	*Estimated Establishment,* 1956
African Education	640	830	1,205
Agriculture	325	396	853
Civil Aviation	88	138	172
Co-operative Societies	13	47	77
European Education	161	248	588
Forestry	179	251	434
Health	608	663	884
Information	31	37	56
Labour	31	47	54
Lusaka Electricity and Water Undertakings	31	115	300
Police	1,165	1,636	2,400
Posts	315	500	726
Press	103	123	150
Provincial Administration:			
Central	320	590	900
Southern	91	89	99
Northern	169	189	222
Public Works Department	59*	590	690
Secretariat	23	47	94
Stores and Transport...	130	300	440
Veterinary	164	207	314
Minor Departments	50	80	130
TOTALS	4,696	7,123	10,788

* Artisans excluded.

Notes:

(i) Labour engaged on monthly terms is excluded.

(ii) The following departments are omitted:

(*a*) *Prisons Department.* Houses will be built departmentally from Development Votes, etc.

(*b*) *Game and Tsetse.* Temporary or semi-permanent houses will be built in remote places from departmental votes.

(*c*) *Water and Irrigation.*
Provincial Administration:
Eastern;
Western;
Barotse.
} Figures awaited.

(iii) The increase in establishment to be housed since 1948 is 2,427, or slightly over 50 per cent. higher than when £500,000 was voted for African housing.

(iv) The estimated increase by 1956 is 6,092, or more than double the establishment in 1948.

Conclusions. The tables are considered to show that, assuming £1,500,000 was a reasonable allocation in 1947 for an urban African population estimated at 59,990 and an African Civil Service establishment of 4,696, the funds required by 1956 for corresponding figures of 186,135 and 10,788 respectively are in the region of £4,000,000. To this should be added a sum of £2,000,000 to allow for houses going out of use and being replaced by better permanent structures, giving a total requirement of £6,000,000.

In the belief that this sum could not be provided and could almost certainly not be spent, application is now made for a total sum of £2,850,000 of "new money" for African housing, both for urban Africans and African Civil Servants, this figure being strictly related to estimated building capacity during the years 1952–1956 (the present African housing contracts will not be completed until mid-1952) and being made up as follows:

	£
(Loan H.) *Urban African Housing*—	
5,400 Two-roomed at £190	1,026,000
3,600 Three-roomed at £310	1,116,000
	£2,142,000
say £2,140,000.	
(Loan J.) *African Civil Servants*—	
1,800 Two-roomed at £190	342,000
1,200 Three-roomed at £310	372,000
	£714,000
say £710,000.	
Total	£2,850,000

T. C. Colchester,
Commissioner for Local Government and African Housing

APPENDIX 3

Revised Territorial Road Development Programme

Allocation from Development Plan as at 1st January, 1951	*Revised Estimate of Cost of Roads, Plant, etc.* £	*New Money Required* £	*Total Estimated Cost* £
CLASS I ROADS:			
Kitwe–Mufulira	24,319		
Mwambashi–Chingola	53,277		
Mufulira–Ndola	112,404		
Lusaka–Chirundu	225,222		
Mazabuka Approach North	66,000		
Mazabuka Approach South	91,000		
Livingstone North Approach...	93,000	8,000	
Lusaka–Broken Hill	365,000		
Great East Road, Lusaka Approach...	53,000		
Lusaka–Emmasdale	8,000		
South Approach: Kafue Bridge	21,500		
Mile 21 North Mazabuka–Mile 6 South Kafue Bridge	51,000	25,500	
Mile 30 North Livingstone–Mile 20 South Mazabuka		637,000	
Kapiri Mposhi–Ndola		300,000	2,148,222
CLASS II ROADS:			
Broken Hill–Tunduma		500,000	
Livingstone–Mambova	88,000		
Great North Road–Chisamba Station		16,800	
Mufulira–Mokambo		15,000	605,800
CLASS III ROADS:			
1,000 miles at £250/mile	42,500	250,000	
Escarpment Section of Fort Jameson–Lusaka road.			
120 miles at £1,000/mile		120,000	412,500
CLASS IV ROADS:			
1,064 miles at £100/mile		106,400	106,400
OTHER ITEMS:			
Improvements to District Roads		100,000	100,000
Capital Grants to Road Boards	50,000	300,000	350,000
Bridges and Culverts	150,000		150,000
Chambezi Bridge		100,000	100,000
Road Plant	180,353	169,647	350,000
Investigations and Surveys	20,000	20,000	40,000
Contingencies		100,000	100,000
TOTAL	1,694,575	2,768,347	4,462,922
Staff	13,613		13,613
TOTALS	£1,708,188	£2,768,347	£4,476,535

APPENDIX 4

Summary of Increased Facilities Contained in the 1951 Revised Posts, Telegraphs and Telephones Plan

	£	£
TELECOMMUNICATIONS		
1. FORT JAMESON.		
Rural party lines	£25,000	
Fort Jameson–Kazimuli trunk line	4,000	
		29,000

Fort Jameson farm lines, £25,000.

Applications are held from 66 subscribers: (*a*) Local, 22 subscribers; (*b*) Kazimuli/Nsadzu, 44 subscribers.

Total length of line, 215 miles.

The cost of construction is very high, being approximately £115 per mile, due to the rising cost of materials and the high cost of road transport from the rail head. The estimates provide for the lightest possible type of line.

Fort Jameson–Kazimuli trunk line, £4,000.

The establishment of farm lines at Kazimuli and Nsadzu necessitates the provision of a trunk connection from Fort Jameson to a switching centre at Kazimuli, from which point construction of thirty-three miles of slightly heavier line than will be required for the farm lines, at a cost of approximately £120 per mile.

2. ABERCORN.		
Township telephone system	£2,500	
Rural party lines	6,500	
		9,000

Abercorn Township telephone system, £2,500.

A small manual telephone exchange system with fifty connections is proposed for Abercorn Township.

Abercorn farm lines, £6,500.

Frequent applications have been made for the establishment of farm lines at Abercorn. The area has been canvassed and a preliminary survey made.

The construction of farm lines involves the simultaneous diversion and reconstruction of the very old single wire line between Abercorn and Mpulungu on the Lake, at a cost of about £2,000. Approximately seventy-six miles of farm line are required, at £72 per mile.

3. KASAMA.		
Township telephone system		2,000

Kasama Township telephone system, £2,000.

A small manual telephone system with eighty connections is proposed for Kasama Township.

4. GENERAL EXPANSION OF AUTOMATIC TELEPHONE EXCHANGES.		
(*a*) Distribution cables	£25,000	
(*b*) Satellite exchanges	34,000	
		59,000

General expansion of automatic telephone exchanges. Additional distribution cables at existing main automatic exchanges, £25,000.

At certain exchange centres along the line of rail the main cables have been down for as long as eighteen years and all cable systems are fully loaded. There are no spares in the cables to permit of effective utilisation of the automatic exchange equipment which is on the order for extensions.

The economic life of underground cable is normally about twenty years, and it is necessary to provide for replacement and expansion, by laying new cables to cover this period, as far as can be foreseen.

The townships particularly affected and the cost of cables required in each case are:

Livingstone	£4,000
Broken Hill	4,000
Ndola	9,000
Luanshya	4,000
Kitwe	4,000

Satellite exchanges, £22,500.

At a number of centres, areas have developed (or are in process of development) at a distance from the existing main exchanges, in which there is considerable demand for telephone services. These areas can be reached either by running heavy cables from the main exchange, or by the erection of small satellite exchanges. £

If it is necessary to serve approximately one hundred subscribers in an area centred at a distance exceeding one mile from the main exchange, the present cost of heavy cables is such that it is more economical to erect a satellite exchange connected to the main centre by a small junction cable, than to run cables of one hundred pairs or more. In general, small cables suitable for the junctions already exist to the areas concerned, having been laid to meet the initial light development therein.

The saving in capital cost by the installation of a satellite (including the cost of a building) is approximately 10 per cent. when the new centre is only a distance of one mile from the main exchange. This saving becomes rapidly greater as the distance and the number of subscribers in the new area increase.

Satellite exchanges are required at the following points:

(*a*) *Livingstone* (Railway Station and Industrial Area). Initial rack equipment, 100 lines; initial subscribers equipment, 50 lines; no building required. (Included in Sub-Post Offices building under Postal Development Plan.)
Estimated cost: £1,500.

(*b*) *Chilanga*. Initial rack equipment, 100 lines: initial subscribers equipment, 50 lines; no building required. (Included in Sub-Post Office building under Postal Development Plan.)
Estimated cost: £1,500.

(*c*) *Lusaka* (Woodlands). Initial rack equipment, 100 lines; initial subscribers equipment, 50 lines; no building required. (Included in Sub-Post Office building under Postal Development Plan.)
Estimated cost: £2,000.

(*d*) *Ndola* (Hospital and North West Area). Initial rack equipment, 100 lines; initial subscribers equipment, 100 lines; with small building to be erected on existing Post Office Wireless Station Receiving Site.
Estimated cost: £2,500.

(*e*) *Kitwe* (North Rise beyond stream). Initial rack equipment, 100 lines; initial subscribers equipment, 100 lines; with building for Branch Post Office.
Estimated cost: £2,500.

(*f*) *Mufulira*. Initial rack equipment, 100 lines; initial subscribers equipment, 100 lines; with building for Branch Post Office.
Estimated cost: £3,500.

(*g*) *Chingola*. Initial rack equipment, 100 lines; initial subscribers equipment, 100 lines; with building for Branch Post Office.
Estimated cost: £3,500.

(*h*) *Luanshya*. Initial rack equipment, 100 lines; initial subscribers equipment, 100 lines; with building for Branch Post Office.
Estimated cost: £3,500.

(*i*) *Livingstone Airport*. Initial rack equipment, 100 lines; initial subscribers equipment, 75 lines.
Estimated cost: £2,000.

The present equipment provides for thirty extensions which are allocated for business purposes. The equipment now required will provide for extension of these services and for residential telephones.

These exchanges are capable of extension to 1,000 lines each if necessary.

5. Private Automatic Branch Exchange System for Central Offices 10,000

To provide telephone services for the present offices and the forthcoming extensions thereto.

6. Radiotelephone Circuit: Lusaka–Fort Jameson–Zomba 38,300

To provide badly needed telephone connection between the Fort Jameson area and the other major towns in the Territory.

	£
7. Extension of Telephone Services to Mining Townships	84,000

At a recent meeting with representatives of the four mining groups it was mentioned that the department should provide telephone facilities to residents in the mine areas who were not required by the mines to be connected to their respective systems. It is realised there are many potential subscribers in these areas, but the provision of these facilities from the main exchanges would present many technical difficulties and prove extremely costly. The solution lies in providing satellite exchanges in the areas with an initial load of 200 subscribers per exchange. These exchanges would be capable of extension up to 1,000 subscribers. The satellite exchanges would be combined with branch post offices, for which the sites would be provided by the mine authorities. No survey has been made of the number of potential subscribers, and it is realised that some time must elapse before the materials would become available and the installations could be proceeded with but it is considered that funds should be earmarked to enable indents to be placed.

Accordingly a rough estimate has been made as follows:

	£
Cable distribution	60,000
Exchange equipment, including buildings	24,000
	£84,000

8. Additional Trunk Outlets	107,650

Delays on trunk calls between Lusaka and Ndola are of the order of one and a half hours, between Lusaka and Livingstone two hours, between Ndola and Kitwe and other Copperbelt towns two hours, and between Livingstone and Ndola three hours. Existing exchanges are too small to provide service for all applicants, and when the exchanges have been enlarged, further demands will be made on trunks. Telegraph channels are inadequate to meet present traffic needs and will not be able to cope with future requirements, of which the requests by Central African Airways and the Civil Aviation Department for private wires and the establishment of a newspaper at Ndola with an estimated amount of 7,000 words of press on publishing days, are examples.

The main additional item is the provision of a twelve-channel carrier system between Lusaka and Ndola. This is definitely necessary to meet increased demands and will, moreover, release a considerable quantity of other equipment, permitting the re-grouping of available three- and four-channel systems to considerable general advantage. These extensions are estimated to cost as follows:

(*a*) Carrier equipment	£63,780
(*b*) Trunk signalling equipment	11,850
(*c*) Trunk switchboards	15,420
(*d*) Trunk lead-in and installation cables	11,000
(*e*) African Linemen's stations	3,800
(*f*) Motor transport (3 trucks)	1,800
Total	£107,650

9. Cabling.	
Livingstone Victoria Falls	£10,000
Ndola V.H.F.	14,000
Lusaka	21,025
10. Additional Wireless Stations	
11. Fort Jameson–Nyasaland Trunk	
Total Telecommunications	

BUILDINGS

12. New Post Office, Lusaka	£30,000
13. New Post Office, Broken Hill	10,000
Total Buildings	£40,000
Total cost of New Capital Works	
Less: Unexpended balance of original £400,000	
New Money Required	

APPENDIX 5

Revised Ten-Year Development Plan

Department of Agriculture

The Ten-Year Development Plan for agriculture was drafted in 1945 and approved, with minor amendment, by the Legislature, in 1947. Considerable modifications and additions have been made since then. In the revised agricultural development plan now submitted the modifications and additions already made or proposed are incorporated and estimates are revised to bring them up to date. In revising estimates it has been necessary also to revise the plan, so as to ensure value for money at the new levels of cost and to keep recurrent expenditure within limits. The proposals made in the 1947 plan have been greatly curtailed so far as African extension staff is concerned, but increased provision has had to be made in other directions, notably for research, for soil conservation work on European farms and for the setting up of Provincial agricultural offices. The proposals for an expanded research scheme drafted in 1948-49 have been revised so as to reduce the recurrent expenditure by limiting the scope of the scheme and making more use of existing facilities on agricultural stations. The revised plans for extension services include provision for Provincial Agricultural Officers, but visualise a much smaller, more concentrated and better qualified staff of African extension workers than did the original plan. A rough indication of how it is proposed the staff might be distributed is given in Annexure C.

2. At Annexure A is a financial summary showing how the revised agricultural development plan compares with that printed in the estimates of the Development Fund for 1951. The main points of difference are:

(*a*) A reduction in the recurrent cost of the research services made by reducing the scope of the plan, having regard to the fact that the research facilities and staff to be provided are intended to be permanent.

(*b*) A reduction in the recurrent cost to development funds of the extension services, made by transferring recurrent expenditure to the departmental votes and by changes in the scope of the plan to secure economy in permanent recurrent expenditure.

(*c*) An increase in the capital cost of the extension services due to the all-round rise in costs since the original estimates were made (in 1945), partly offset by reduction in the scope of the plan.

(*d*) Reductions in the current cost of agricultural training for Africans (overestimated).

3. At Annexure B are estimates of recurrent expenditure on the Agricultural Department for each year from 1951 to 1957, excluding expenditure on special projects (e.g. rehabilitation of the South Chewa Reserve, operation of soil conservation units, Mumbwa ground-nut scheme, projects for rice, palm oil and vegetable production, expenses of Tobacco Advisers, etc.). The allocation of expenditure between departmental and development votes is given for each year on the assumption that development schemes for research and extension services recently approved will be according to plan. It will be noted that Personal Emoluments show a steady increase due to normal increments and recruitment of new staff. Other Charges are expected to reach a maximum (when the development allocation is included) about 1954, by which time all new stations should have been opened and the research service in full operation; between then and 1957 there should be a slight fall due to reduced expenditure on training of staff as numbers approach saturation and to closing of the Lusaka Government Farm when its functions are taken over by the proposed Central Research Station.

4. Annexure C shows the permanent staff estimated to be required to put into operation the revised development plan. When compared with the staff detailed in the 1947 plan the main points of difference are:

(*a*) Under "Extension Services" there is a large reduction in the number of ungraded African staff on the one hand (from 1,000 to 450) and an increase in the number of graded staff (from 200 to 240) on the other. These changes have been made in the light of the need to plan for the most economical method of operating the services from 1957 onwards without exceeding the limit of recurrent expenditure set for the department by more than is absolutely necessary, and have been largely influenced by the fact that the cost of ungraded staff has doubled since 1947.

(*b*) Under "Services to European Farmers" permanent staff additional to that detailed in the 1947 plan is needed for the new Tobacco Station near Choma, and four Conservation Officers replace the two Agricultural Officers proposed for soil conservation work on European farms. The Lusaka Government Farm is replaced by a Central Research Station at Mount Monkolo, near Lusaka.

(*c*) Under "Research Services" the staff shown is for an expanded scheme recently submitted.

(*d*) The Headquarters staff is increased by one Agricultural Officer and three clerks, necessary for the efficient administration of the expanded department.

(*e*) A leave reserve of two Agricultural Officers and two Agricultural Supervisors is now added. This reserve is only half the theoretical requirement but should be sufficient to prevent a complete cessation of activity on any station due to incidence of leave, sickness, etc., having regard to the fact that not all stations will be "one-man" stations, and that by 1957 no Province will have less than two Agricultural Officers and every station should have a reasonably adequate staff of trained Africans.

5. The total annual recurrent expenditure in 1957 is estimated at about £265,000, slightly more than the figure of £262,000 calculated on a rate of growth of six per cent. per annum. The Agricultural Department was, however, reduced to the barest of skeletons in the retrenchment of 1932, and the extreme difficulty experienced during post-war years in attracting trained Agricultural and Research Officers to the Colonial Service continues to hamper recovery. The approved estimate of expenditure on the department in 1950 is far below what it would have been had the department been of "normal" strength, and its growth-rate during the next few years must allow for the leeway to be made up. Whether there will be any improvement in the recruitment of trained officers between now and 1957 is uncertain. The Colonial Agricultural Service has become relatively unattractive as a career to men with the qualifications needed, and if they cannot be recruited the whole plan will have to be greatly curtailed. The level which it is proposed the department should reach by 1957 is considered to be the minimum necessary to meet the most urgent needs of the Territory for agricultural services. It is far below the level that would be required to cover every part of every district, i.e. if the Agricultural Department were considered to be a mainly social rather than a largely economic service; but it should be sufficient to enable the department to give something approaching adequate attention to those areas which need it most urgently through the existence of critical problems of land deterioration or of possibilities of economic development.

ANNEXURE A TO APPENDIX 5

Department of Agriculture: Financial Summary of Revised Development Plan

Head	Sub-head		Allocation from Development Plan at 1st January, 1951	Period	Revised Cost	Expenditure to 31st December, 1950	Estimated Expenditure, 1951–56
			£		£	£	£
98	61	Tobacco Advisers	5,423	1947–49	5,423	5,423	—
	62	Research Service Recurrent (R.416)	165,000	1947–55	165,000	1,123	163,877
	63	Research Service Capital (R.416)	134,728	1947–55	134,728	11,637	123,091
	64	Extension Services—Field Operations (D.1185) ...	178,190	1948–55	178,190	29,100	149,090
	65	Training for Africans — Recurrent Expenditure (D.1142)	36,920	1948–51	25,000	9,800	15,200
			35,100	1948–51	35,100	25,210	9,890
	66	Training for Africans—Capital Expenditure (D.1142)	131,000	1948–55	186,000	41,176	144,824
	67	Capital Works—Extension Services for African Agriculture (D.923)	29,165	1947–50	29,165	29,165	—
	68	Tobacco Experimental Station	25,000	1947–55	25,000	16,000	9,000
	69	Bush Clearing Unit	2,250	1949	2,250	2,250	—
	70	Ecological Survey (R.223 and R.223A)	310	1949	310	310	—
	71	Ecological Survey—Travel in Northern Rhodesia ...	7,005	1948–50	7,005	7,005	—
	72	African Soil Conservation	100,000	1947–56	175,000	100,000	75,000
	31	Soil Conservation	10,000	1947–56	10,000	—	10,000
99	32	Aerial Survey	90,394		—	—	—
		Unallocated	£950,485		£978,171	£278,199	£699,972
		Less: Financed from Central Research Allocation of Colonial Development and Welfare Funds	219,478		219,478	14,449	205,029
		Totals	£731,007		£758,693	£263,750	£494,943

ANNEXURE B TO APPENDIX 5

Estimates of Recurrent Expenditure: 1951 to 1957

		1951	1952	1953	1954	1955	1956	1957
		£	£	£	£	£	£	£
Personal Emoluments	Departmental ...	66,050	78,170	83,590	92,365	102,615	125,265	128,915
	Development ...	20,000	20,000	24,000	23,000	18,000	—	—
Other Charges ...	Departmental ...	48,000	61,000	66,000	74,000	80,500	107,250	107,250
	Development ...	47,000	41,000	42,000	36,000	29,500	—	—
Special Expenditure	Departmental ...	18,000	19,000	20,000	22,000	24,000	26,000	28,500
	Total	£199,050	£219,170	£235,590	£247,365	£254,615	£258,515	£264,665

ANNEXURE C TO APPENDIX 5

Estimated Staff Requirements

	A.O.	R.O.	C.O.	A.S.	Cl.	A.Cl.	A.A.	Ord.	Cap.	Art.	Notes
Extension Services:											
Southern Province	4	—	—	5	1	8	50	14	30	9	
Central Province	3	—	—	5	1	6	40	10	40	9	
Western Province	5	—	—	6	1	7	50	12	80	11	
Eastern Province	3	—	—	6	1	7	40	12	80	9	
Northern Province	3	—	—	4	1	5	30	8	60	5	
Barotse Province	2	—	—	3	1	4	25	8	50	4	
Women Agricultural Supervisors				3	—	—	—	—	—	—	
TOTAL EXTENSION STAFF	20	—	—	32	6	37	235	64	340	47	
Housed on 1st January, 1950	10	—	—	13	—	9	50	23	120	14	(1)
General Building Programme	5	—	—	—	—	—	—	—	—	—	
Expanded Scheme D.923	5	—	—	19	—	28	185	41	220	33	
Training for Africans:											
Monze	—	—	—	1	—	1	3	1	2	3	
Katete	—	—	—	1	—	1	3	1	2	3	
Lunzuwa	—	—	—	1	—	1	3	1	2	3	
TOTAL TRAINING STAFF (All housed on Scheme D.1142)	—	—	—	3	—	3	9	3	6	9	
Services to European Farmers:											
Soil Conservation	—	—	4	—	—	—	6	4	—	—	(2) (3)
Tobacco Station	—	—	—	1	—	1	2	2	2	3	
Eastern Province: Tobacco Station	—	—	—	1	—	1	2	2	2	3	
TOTAL SERVICES TO EUROPEANS	—	—	4	2	—	2	10	8	4	6	
Housed on 1st January, 1950	—	—	—	2	—	2	4	5	4	6	
General Building Programme	—	—	1	—	—	—	—	—	—	—	(2)
Soil Conservation Scheme	—	—	3	—	—	—	6	4	—	—	(3)
Agricultural Department	—	—	—	—	—	—	2	2	—	—	
Research Services:											
Central Station	—	7	—	2	1	2	12	6	6	6	(4)
Mazabuka Substation	1	—	—	1	—	1	2	1	—	2	
Mumbwa Substation	—	—	—	1	—	1	2	1	—	3	
Bangweulu Station	2	1	—	2	1	1	6	3	2	4	(5)
TOTAL RESEARCH SERVICES	3	8	—	6	2	5	22	11	8	15	
Headquarters:											
Headquarters Staff	1	—	—	—	6	—	—	3	—	1	(6)
Leave Reserve	2	—	—	4	—	—	—	—	—	—	
TOTAL HEADQUARTERS STAFF	3	—	—	4	6	—	—	3	—	1	
Total Staff	26	8	4	48	14	47	298	92	358	78	

2. Proposed Rate of Growth

	1950	1951	1952	1953	1954	1955	1956	1957
Agricultural Officers	16	18	19	21	22	24	26	26
Research Officers	4	8	8	8	8	8	8	8
Conservation Officers	4	4	4	4	4	4	4	4
Agricultural Supervisors	37	43	48	48	48	48	48	48
Clerks	11	12	14	14	14	14	14	14
African Clerks	19	29	37	43	47	47	47	47
African Assistants	103	128	173	218	263	278	278	278
Orderlies	43	58	70	82	92	92	92	92
Capitaos	199	225	255	285	315	345	358	358
Artisans	30	50	60	70	78	78	78	78

NOTES:
(1) Choma, Broken Hill, Fort Jameson, Ndola, Fort Rosebery.
(2) Chief Conservation Officer at Lusaka.
(3) Conservation Officers at Lusaka, Broken Hill, Mazabuka.
(4) Including Ecologist, Two Soil Chemists, Plant Breeder, Plant Pathologist, Entomologist, Pasture Research Officer.
(5) Including Plant Breeder.
(6) In addition to Director and Deputy Director.

ABBREVIATIONS:
A.O. = Agricultural Officer (including Senior Agricultural Officers).
R.O. = Research Officer (*see* Notes 4 and 5).
C.O. = Conservation Officer (*see* Notes 2 and 3).
A.S. = Agricultural Supervisor (including Senior Agricultural Supervisors)
Cl. = Clerk.
A.Cl. = African Clerk.
A.A. = African Agricultural Assistant.
Ord. = Office Orderly.
Cap. = Agricultural Capitao (including Agricultural Demonstrator).
Art. = Artisan (Category A).

APPENDIX 6

Loans to Co-operative Societies

Agricultural co-operative development comes under the head of Agricultural Development and Marketing, and there is a very wide field for possible investment in this connection, e.g. in the Kawambwa and Fort Rosebery development projects, in the further development of the thriving agricultural co-operative movement in the Eastern Province, with plans envisaged for Monze-Mazabuka, Mumbwa, Serenje, Mkushi and Barotseland. All would benefit from funds available to promote:

(*a*) pilot or trial schemes, not necessarily economic.

(*b*) proper economically sound schemes of rural development which require "pump priming" funds on loan at proper rates of interest.

The small amount of £20,000 made available to co-operative societies over the whole ten-year period is too small. It has been reserved, by decision of the Development Authority, for use in small building loans to societies which can prove their fitness to handle and service loans. Naturally, so far, demands have been small—the department is only entering on its third year. But early this year the most thriving African agricultural co-operative society (the Petauke Marketing Union, Ltd.) put up a proposed scheme of capital development offering first-class security for a loan of £10,000. This had to be referred to the Standing Finance Committee as it would have almost exhausted in one year the funds left out of the £20,000 available under the Ten-Year Plan for just such purposes. The application has therefore had to be made outside the scheme of the Ten-Year Plan, of which it is in reality an integral part.

In the next five to six years, agricultural co-operative societies will expand very rapidly, if finance is available to assist, on ordinary sound economic basis, with capital development in such fields as food storage building, processing machinery and transport, and short-term loans for purchase of produce other than foodstuffs (e.g. tobacco, cotton, perhaps later sunn-hemp, tung oil, and other similar cash crops).

There is no suggestion that societies be financed by Government as to share capital. Funds made available would be on a commercial basis, paying proper interest and offering proper security.

Over an eight-year period a reasonably comprehensive amount of £100,000 would be more in keeping with the expected rural requirements of the Territory in the co-operative field alone. The present allocation of only £20,000 (£2,000 per year average), and its restriction to building loans, means that the type of society (the consumer store society), of least importance in the rural development of the Territory, is the main type for which funds are available; the vastly more important, the vitally important, agricultural producer and marketing type of society, has had no funds available in advance to which recourse may be had for the encouragement of sound economic development. It is recommended that a sum of £100,000 out of the £500,000 originally provided for Agricultural Development and Marketing and the Development of Secondary Industries be made available for capital development loans of this nature, in addition to the £20,000 already voted and of which about £5,500 has been so far drawn on or allocated.

APPENDIX 7

Veterinary and Livestock

Head	Sub-head		Allocation from Development Plan as at 1st January, 1951	Period of Scheme	Revised Cost	Expenditure to 31st December, 1950	Estimated Expenditure, 1951–1956
			£		£	£	£
98	121	Additional Equipment and Facilities ...	218,417		51,000	13,972	37,028
	122	Capital Works Additional Staff	34,500	1947–55	34,500	22,104	12,396
	123	Disease Eradication	90,000		51,835	23,835	28,000
	124	Livestock Improvement and Management	80,000		45,055	15,055	30,000
	125	African Veterinary Assistants' Schools ...	8,555	1947–49	8,555	8,555	—
	126	Research into Disease of Animals (Capital)	12,973		12,973	—	12,973
	127	Research into Disease of Animals (Recurrent)	14,865		—	—	—
	130	Animal Husbandry Research and Demonstration (Capital	11,300	1950–54	11,300	—	11,300
	131	Animal Husbandry Research and Demonstration (Recurrent)	6,200		6,200	—	6,200
	132	Pasture Management (Capital)	8,000		8,000	3,150	4,850
	133	Pasture Management (Recurrent) ...	8,150		8,150	—	8,150
	134	Grass Drying (Capital)	4,750		4,750	3,950	800
	135	Grass Drying (Recurrent)	5,625		8,125	1,125	7,000
	136	T.I.F.A. Fog Spray	3,000	1950–51	3,000	2,000	1,000
	137	Import of Cattle from Tanganyika* ...	—	1950–53	40,000	5,000	35,000
			£506,335		£293,443	£98,746	£194,697
		Less: Financed from Central Research Allocation of Colonial Development and Welfare Funds	20,406		—	—	—
		TOTALS	£485,929		£293,443	£98,746	£194,697

* Transferred from Rural Development Section.

APPENDIX 8

Forest Department

Head	Sub-head		Allocation from Development Plan as at 1st January, 1951	Period of Scheme	Revised Cost	Expenditure to 31st December, 1950	Estimated Expenditure, 1951–56
			£		£	£	£
98	91	Forest School (D.851)	43,000	1948	43,000	8,245	34,755
	92	Aerial Survey	5,645	1947–51	5,645	5,645	—
	93	Forest Service in Rural Areas	2,899	1948–49	2,899	2,899	—
	94	Utilisation and Timber Investigations ...	17,000	1948–55	8,066	5,648	2,418
	95	Capital Works for Forest Development (D.1063)	55,000	1947–54	75,160	23,903	51,257
	96	Forest Development and Improvement	95,000	1947–55	95,000	41,686	53,314
	97	Survey of Timber Resources (D.1047) ...	40,000	1949–55	60,000	15,996	44,004
	98	Visits of Specialist Officers and Training of European Staff (D.1062)	14,643	1949–55	14,643	7,528	7,115
	99	Forest Research Stations (Capital) ...	—	1952–53	37,400	—	37,400
	100	Forest Research Stations (Recurrent) ...	—	1952–56	31,600	—	31,600
	101	Check List of Trees and Plants (R.405) ...	5,000	1951–52	5,000	—	5,000
	102	Forest Research Officers (Capital) (R.400)	6,000	1951–52	6,000	—	6,000
	103	Forest Research Officers (Recurrent) (R.400)	13,500	1951–55	13,500	—	13,500
	104	Training of Locally Recruited Foresters at Forestry Commission Schools in the United Kingdom (D.1188) ...	2,375	1949–53	2,375	—	2,375
		Unallocated	3,113		—	—	—
			£303,175		£400,288	£111,550	£288,738
		Less: Financed by Central Research Allocation of Colonial Development and Welfare Funds	15,250		35,950	—	35,950
		TOTALS	£287,925		£364,338	£111,550	£252,788

ANNEXURE A TO APPENDIX 8

Forest Department: Revised Development Plan

Nearly two years ago a plan was drawn up, in considerable detail, showing how the Forest Department would expand between 1949 and 1956. The department, being small, and new, was not in equilibrium with the Territory's demand for timber. In addition, it had a greater back-log to make good, as a result of the war, than almost any other department.

The plan was to build up, over the space of seven years, a small but efficient department which it was hoped would just be large enough to keep abreast of the Territory's timber requirements—as they stood in 1948. This plan was taken to Executive Council, who studied the staff section of it and approved the phased rate of recruitment it proposed. It was a modest rate, hardly exceeding one new Forest Officer a year.

A review of this plan (which is easy, because all the details were set down and costed) shows that it is too small for the Territory's requirements. The Territory continues to eat up its timber supplies faster than men can be provided to look after the cut-over areas or make them grow up again. Land is not being set aside as Forest Reserves to the extent that the country requires for the future. The scientific bases of timber utilisation, of silviculture, and of soil research, which are the only safe insurance against adopting on a large scale methods which can greatly waste the taxpayers' money, are either only half-provided for or not yet even approved. An important item (for research) exceeding £120,000 was thought to be payable by a grant from Colonial Research Fund; it has since been refused.

Finally, the size of the department proposed for 1957 took little account of other plans for development, indeed it is out of step with them. No staff is provided in " Phased Forestry plan " for foresters to be members of any Area or any District Team or for work at any Development Centre.

The final staff proposed in the " phased plan " for Northern Rhodesia Forest Department in 1957 is indeed not as large as that actually on the establishment of Kenya, Uganda or Tanganyika when their development periods started.

The reason for this extreme caution is because the plan was written with the possibility of a copper slump in mind. Its proposals were based upon what the Territory could not afford to be without in time of scarcity. This is not the same thing as the requirements of a rapidly expanding territory, with prospects of a new railway, and an expanding copper and tobacco production. It has thus been necessary to re-examine the end-product of the development period, in the light of present-day costs and foreseeable requirements, and to equate its capacity to the work which it is already quite clear will be required of the department by then. Nevertheless the same rule is now applied as before; that Forestry should be a small (but efficient) department, just large enough to keep abreast of the Territory's chief requirements, and disposing of no staff or funds for the many very desirable additions possessed by the forest departments of neighbouring Belgian and East African territories. The present position is as follows (*see* also Annexure B):

	Authorised Expenditure, Forestry Recurrent, 1950	*Original Expenditure for Department under "phased plan," 1956*	*New Revised Estimates for Department in 1957*
	£	£	£
Personal Emoluments	40,772	68,268	78,578
Other Charges	54,989	70,100	83,390
Special Expenditure	11,995	6,600	8,250
TOTAL	£107,756	Say £145,000	£170,218

The increase in the Forest Department's recurrent expenditure is analysed below:

(1) *Forestry School.* £1,100 per annum.

Renewals of equipment, maintenance of buildings, and vehicle replacements were not included among those costs of the Forestry School which were transferred to recurrent departmental expenditure in 1950. These, then, must be added to the recurrent costs of the Forest Department from 1952 onwards.

(2) *Utilisation and Timber Investigations.* Special expenditure, recurrent, £750.

While the permissible figure for 1957 of £173,000 for Forestry includes the absorption into the permanent establishment of a specialist staff costing £4,343 (the transfer is now proposed for 1951), the above items, required for laboratory equipment, machining timber specimens, and vehicle requirements, were not included in the "phased plan", and require therefore to be added to the 1957 permissible figure.

(3) *Capital Works for Forest Development.* Maintenance of buildings, £540.

This recurrent charge was overlooked in the "phased plan".

(4) *Forest Development and Improvement.* £2,000 per annum.

The maintenance of tractors, replacements of ploughs and equipment, replacements of vehicles, upkeep of forest roads and boundaries, and other maintenance of items bought or created under this head, involves the above additional amount above the allowable estimate (£147,000) after the development period ends.

(5) *Survey of Timber Resources.*

Personal Emoluments	£3,250
Other Charges	£3,800
Special Expenditure	600
	£7,650

A strong plea is put forward for incorporating the Timber Survey Unit when the present development scheme ends as a permanent feature of the department. The experience acquired by its personnel is invaluable and should not be dissipated in 1956. Apart from the unit's present exploratory work (which is behind programme and cannot be completed within the development period), a survey section and a "working plans" section of the department is in any case indispensable for demarcating and organising forest reserves, and protected forest areas, over a great many years to come.

(6) *Establishment for Two Forest Research Stations. Recurrent Expenditure.*

Personal Emoluments	£2,020
Other Charges	4,300
	£6,320

A revised application for a Colonial Development and Welfare Fund Research Grant for these research stations, to commence in 1952, has recently been submitted to the Member for Agriculture and Natural Resources.

(7) *Forest Research Officer. Recurrent Expenditure.*

Personal Emoluments	£1,650
Other Charges	1,050
	£2,700

This scheme, for the period 1951–1955, has now been approved by the Secretary of State. It was previously " turned down " so that provision for the recurrent expenses after the end of the development plan period were not included in the phased plan for transfers to departmental recurrent expenditure. It is now desired to provide for the absorption of these expenses into departmental expenditure as from 1956.

ANNEXURE B TO APPENDIX 8

Forest Department

ANALYSIS OF INCREASE IN RECURRENT EXPENDITURE, 1950–1957

	Authorised Expenditure, Departmental Recurrent, 1950	Original Expenditure for Department under " Phased Plan ", 1956	New Services	Forest Training Centre	Utilisation	Capital Works	Forest Development	Timber Survey Unit	Research Stations	Research Officer	1957
	£	£	£	£	£	£	£	£	£	£	£
Personal Emoluments...	40,772	68,268	3,390	—	—	—	—	3,250	2,020	1,650	78,578
Other Charges ...	54,989	70,100	800	800	—	540	2,000	3,800	4,300	1,050	83,390
Special Expenditure...	11,993	6,600	—	300	750	—	—	600	—	—	8,250
TOTAL ...	£107,756	£145,000	£4,190	£1,100	£750	£540	£2,000	£7,650	£6,320	£2,700	£170,218

APPENDIX 9

Game and Tsetse Department. Financial Summary of Revised Development Plan

Head	Sub-head		Allocation from Development Plan at 1st January, 1951	Period	Revised Cost	Expenditure to 31st December, 1950	Estimated Expenditure, 1951–56
			£		£	£	£
98	151	Tsetse Control, Eastern Province (D.595)	21,750	1945–50	20,136	20,136	—
	152	Tsetse Control, Kafue Cattle Area (D.595)	26,910	1945–50	26,590	26,590	—
	153	Expansion of Departmental Services...	199,891	1947–56	187,399	78,290	109,109
	154	Fish Farming (D.850)	6,725	1945–50	7,275	7,275	—
	155	Tsetse Control, Feira (D.840)	21,720	1947–51	21,720	17,381	4,339
	156	Tsetse Survey Field Research Unit (R.343)	24,925	1950–52	24,925	1,800	23,125
	157	Fish Farming Development (Capital) (D.1325) ...	30,558	1950–53	30,558	10,855	19,703
	158	Fish Farming Development (Recurrent)	14,560	1950–53	14,560	931	13,629
	159	Kafue National Park	23,597	1950–54	23,597	3,815	19,782
	160	Tsetse Control and Research (Minor Services) ...	15,282	1951–52	13,212	—	13,212
	161	Tsetse Control, Kafue (North) Cattle Area Extension Scheme	4,243	1951	4,243	—	4,243
	162	Tsetse Control, Feira Extension Scheme	3,280	1951	3,280	—	3,280
	163	Kafue National Park Supplementary Scheme ...	8,000	1950–54	8,000	—	8,000
		Fish Farming Extension	—	1953–56	26,500	—	26,500
	410	Fisheries Research Organisation to serve Northern Rhodesia and Nyasaland (Capital) (R.394) ...	35,000	1951–55	35,000	—	35,000
	411	Fisheries Research Organisation to serve Northern Rhodesia and Nyasaland (Recurrent) (R.394) ...	54,000	1951–55	54,000	—	54,000
		Reserve	136,706		44,621	—	44,621
			627,147		545,616	167,073	378,543
		Less: Central and Joint Allocations ...	129,207		105,616	1,199	104,417
		TOTALS	£497,940		£440,000	£165,874	£274,126

ANNEXURE A TO APPENDIX 9

Game and Tsetse Control Department

TSETSE CONTROL AND RESEARCH.

With the satisfactory completion of three major tsetse control schemes, Eastern Province, Kafue (North) Cattle Areas, and Feira, it can be said that a big bite has already been taken out of the Territory's vast tsetse problem. Successful techniques have been established, and the future problem will be not so much how to eradicate the tsetse from a given area, but how to hold the area against reinfestation and justify the cost of eradication by generally bringing reclaimed land into economic use. Without the necessary preliminary information it has not been possible to frame further worthwhile schemes in advance; the contingency of such must, however, be borne in mind.

Minor schemes of control have been taken out of the general sub-head for " Expansion of Departmental Services " and given an independent sub-head. Such schemes cater for the immediate follow-up of the major schemes, in which connection commitments have been enhanced through the possibly inevitable delays in general agricultural development in certain areas concerned, also for work of a minor nature which, it is hoped, will not be indefinitely recurrent on a scale beyond the scope of the departmental estimates.

Tsetse research items cover a three-year survey of tsetse distribution and related ecological factors, which owing to delays in recruitment of the necessary staff will in due course require to be extended in time. In conjunction with the survey an Entomologist loaned by the Beit Trust is carrying out investigations into the possibilities of applying insecticidal methods of control in this Territory.

Fish Farming.

With the completion of the preliminary (Colonial Development and Welfare) scheme for fish farming sufficient proof of possibilities in this Territory is available to justify the expansion programme catered for under the Fish Farming Development Scheme (Capital, Colonial Development and Welfare; Recurrent, Northern Rhodesia Development). Experience to date, related to similar work in the Belgian Congo, indicates that in fully managed fish ponds an economic yield up to at least 4,000 lb. per acre per annum is practicable. Such ponds, however, require ample water supply, obtainable generally only in the higher rainfall regions of this Territory. Sufficient is already known of the technical aspects of fish production to afford confidence that no insurmountable difficulties will appear in these regions, so that the major experimental problem remains in the lower rainfall areas, i.e. the greater portion of the Territory's farming country. Here experiment must, in the first place, be directed towards adaptation of pond construction techniques to local water supply conditions, and the integration of fish pond requirements with water conservation practice.

The general plan is to provide demonstration centres at various strategically located points, which will serve as nuclei from which ordinary commercial and private activity on the part of the public may be stimulated and guided. The departmental projects should in due course pay for themselves from fish produced, though the cost of continuing research and experiment will for some time partly offset profits. In addition to the original small experimental station at Chilanga, fish farms are now being established at Fort Rosebery (to serve also the needs of the Joint Fisheries Research Organisation) and Mwekere, near Kitwe (to serve the Copperbelt). Kasama and Mumbwa, as important Provincial and development centres respectively, are further possibilities under present investigation.

Joint Fisheries Research Organisation.

This organisation, designed to serve Northern Rhodesia and Nyasaland, will be centred at Samfya on Lake Bangweulu, though much of the work will have to be done from other points on the widely scattered waters of this Territory. The scientific staff is to number four, with a Clerk and a Technical Assistant permanently stationed on Lake Nyasa. With the loan of a senior officer for a few months, work has commenced chiefly with the collection of equipment and the construction of ponds for fundamental research on fish farming; the building programme has also been taken in hand by the Commissioner of Works.

The increasing importance of fisheries to the Territory, and the comparatively little yet known of the fish themselves, make research a matter of primary concern, worthwhile even had Northern Rhodesia to bear the whole burden of financing all the eventual recurrent expenditure of the order of £12,000 to £15,000 a year.

Kafue National Park.

The development of this National Park as a long-term amenity is justified, not only on sentimental grounds, but as an economic tourist attraction. The show of game in the southern section during the season (mid-July to mid-October) is already exceeding expectations. This may justify earlier action than originally anticipated in regard to up-grading roads and provision of good rest accommodation: meanwhile satisfactory progress in the cutting of bush tracks is being made.

After the initial five-year period allowed for under the Revised Development Plan, the Park will presumably pass to its own independent administration.

General.

The sub-head for " Expansion of Departmental Services " necessary in a new department, in which very considerable expenditure on buildings, equipment and temporary services was necessary, is now limited, except for buildings, to minor items connected with the expansion programme as such, any small recurrent aspect of which can in due course be absorbed into departmental estimates.

Generally, the department has kept well to the lines envisaged in the original Development Plan, deviations being due in the main on the one hand to delays in arrivals of staff and equipment, and on the other to the appearance of problems as a result of investigation, rather than to any basic change of direction. The Joint Fisheries Research Scheme and the Kafue National Park Scheme have been added both as a result of necessary preliminary investigations. It is likely that further tsetse control problems will arise before the end of the Plan period, and particularly with this in mind an unallocated balance of £44,621 is still held.

APPENDIX 10

Rural Development

Head	Sub-head		Allocation from Development Plan at 1st January, 1951	Period	Revised Cost	Expenditure to 31st December, 1950	Estimated Expenditure 1951–56
			£		£	£	£
98	181	Development Centre—Capital Works ...	8,198	1948–49	8,198	8,198	—
	182	Development Centre—Capital Works ...	128,500	1949–55	128,500	38,547	89,953
	183	Personal Emoluments	560	1948–49	560	560	—
	184	Other Charges	401	1948–49	401	401	—
	185	Development Areas—Capital Works ...	70,755	1947–49	70,755	70,755	—
	186	Development Areas—Capital Works ...	131,000	1949–55	131,000	41,735	89,265
	187	Development Areas—Recurrent Expenses	18,814	1947–49	18,814	18,814	—
	188	Development Areas—Recurrent Expenses	355,000	1949–55	355,000	40,111	314,889
	191	Headquarters Expenditure	15,000	1947–55	15,000	2,526	12,474
	192	Expert Investigations	580	1947–49	580	580	—
	193	Expert Investigations	7,000	1949–55	7,000	404	6,596
	194	Import of Cattle from Tanganyika* ...	40,000	1950–53	—	—	—
	195	Hydrological Survey of Lukanga Swamps	2,940	1950	2,940	2,940	—
	196	Nutrition and Health Scheme: Kawambwa District	—	1951–53	55,660	—	55,660
		Items not repeated	15,164	1947–49	15,164	15,164	—
		Unallocated balance	704,901		190,428	—	190,428
		TOTALS	£1,498,813		£1,000,000	£240,735	£759,265

* Now transferred to Veterinary Section.

APPENDIX 11

Health Development Plan, 1950

As prepared by the Director of Medical Services, Dr. P. B. Robinson, B.A., M.B., B.CH., B.A.O., D.P.H. DUB., D.T.M. L'POOL, and agreed by the Member for Health and Local Government and the Development Secretary.

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SCHEDULES

I. Capital Schemes in Order of Priority.

II. Estimated Recurrent Expenditure—1957.

(This plan is subject to the approval of the Legislative Council.)

Relationship of Health Plan to General Development Plan: When the territorial Development Plan was re-examined in 1948, it became clear that the Health Development Plan would have to be entirely recast as it was then out of date due to the large number of unforeseeable factors that had come to light since the original plan had been drafted. In the 1948 review, £1,700,000 was allocated to the Health Department from the total territorial Development Plan of £17,000,000.

2. The fact that consideration of the plan has been proceeding, from 1947 onwards, could not be permitted to delay practical work on individual items. It became necessary, therefore, to proceed with certain aspects of the plan, on an *ad hoc* basis, such as the building of the Broken Hill Hospital, involving capital expenditure only and the Sleeping Sickness Campaign, including both capital and recurrent expenditure.

3. *Delays:* Finalisation of the Health Plan has been regrettably delayed due to the fact that a large portion of the plan involves buildings, so that it has been necessary to carry out lengthy investigations before individual items could be costed and fully considered. More delay has been caused by the alteration in the financial target, at the critical stage of drafting, as a result of which many details have had to be reconsidered and recast.

4. *Financial Aspect:* The demand for the improvement of health services throughout the Territory has been, and still is, so great that it is hard to place sufficient emphasis upon it. Yet a sense of proportion must be kept as to the sums that can be afforded by the territorial finances as between the various competing spending departments.

5. It therefore becomes necessary to assess what proportion of the Territory's income should be allocated to the Health Department. As shown above, in the 1948 review 10 per cent. of capital expenditure envisaged was earmarked for the Health Department. In so far as recurrent expenditure is concerned, the present plan envisages that the cost of operating the Health Department, once the plan has been implemented—i.e. in 1957—will be in the nature of £1,100,000 per annum. This figure is considered to be a reasonable proportion of what the territorial expenditure might be in that year (*see* Schedule II for breakdown). This figure of £1,100,000 is based upon the 1950 recurrent expenditure of £504,000, expanded at a rate of 7½ per cent. per annum, together with additional recurrent expenditure of £311,000 which will arise from the completion of certain specific works which have been set out in detail at Schedule II.

6. It should, at this stage, be noted that the structure of the Health Plan provides for all recurrent expenditure being met from the Health Departmental Vote and not from Development funds. Though this represents a departure from the original approach to the plan, this procedure has, in fact, been adopted since 1948, with the minor exception of the Sleeping Sickness Campaign. Even this latter minor item is being transferred, as from 1951, from the Development Fund to the Health Department Vote, since it is now considered to be a long-term feature of the activities of the Health Department, and will require to be extended.

7. Increased running costs, arising from the building of new hospitals and extensions to old hospitals, are based upon the costs estimated by a committee recently appointed to report upon hospital fees. They are now estimated to be approximately 48*s*. per day per European patient and 6*s*. per day per African patient.

8. *The Case for Improvement of Health Services:* The development of the health services of Northern Rhodesia has been hampered for many years by the fact that there have been insufficient finances to allow for putting up the buildings required, for the recruitment of sufficient staff, for sufficient research work, and for the purchase of the equipment and material required. It is only since the Territory has reached a stage where expenditure of large sums of money on public services has been possible that the Health Department has been able to plan with realistic hopes of achieving satisfactory results.

9. The percentage increases of admissions to Government hospitals for the year 1948 are: Europeans 16 per cent.; Africans 8 per cent. For 1949: Europeans 20 per cent.; Africans 11 per cent. For 1950: Europeans 41 per cent.; Africans 18 per cent. These figures bear no relation to the percentage increase of population and demonstrate the need for machinery to collect and collate effective statistics regarding health requirements for the Territory. The Central African Statistical Bureau is already engaged in the preliminary stages of this inquiry, and statistics regarding special problems, such as tuberculosis, eye diseases and venereal disease, are being collected by specialist officers of the Health Department.

10. *Increases of Personnel:* A factor to be mentioned briefly, at this stage, though dealt with more fully below, is the point that no health services can be fully improved without planning for increased personnel. This involves both the importation of highly trained and qualified medical staff, and the extensive local development of training facilities for African staff.

11. *Relationship Between Preventive and Curative Medicine:* It is a platitude to say that throughout the history of medicine emphasis has been laid more on the need for curative rather than for preventive medicine. Comparatively recently the pendulum has swung to the other extreme, with the result that, at times, the importance of curative services may have been neglected for the sake of the more fashionable

preventive services. It is felt that the correct attitude towards the territorial health services lies in the happy mean between the two aspects. In the Health Development Plan, therefore, attempts have been made to strike a balance between the two, inter-relating them as much as possible. The cost of preventive measures is not specifically reflected in the actual Development Plan finances, since these measures form part and parcel of the general service at present given by the department, and the cost of this development will be covered by its annual increases in departmental recurrent expenditure. The basis upon which this development of preventive medicine is to be achieved in the future is by training Africans centrally, in ever-growing numbers, as instructors in elementary hygiene, sanitation, nutrition, etc. The individual Africans so trained will then be utilised, working from Rural Health Centres, throughout the Territory, to spread the gospel of health throughout African villages by instruction and example. They will work from the Rural Health Centres in conjunction with the African Dispensary Assistants, who will also be centrally trained.

12. *Objectives:* The objectives to be aimed at, in the Health Development Plan, are as follows:

(i) the training of African subordinate staff, which, according to the Secretary of State's Chie Medical Officer, Dr. E. D. Pridie, C.M.G., D.S.O., O.B.E., is considered the most important function of the medical services in tropical Africa;

(ii) the improvement of hospital facilities, for both the European and African populations, by putting up new buildings and by replacing unsatisfactory old buildings;

(iii) the stimulation of public health work by urban local authorities (i.e. municipal councils and township management boards), including the development of welfare clinics;

(iv) local research into endemic diseases, including the introduction of specific surveys and the application of the lessons learned therefrom.

13. *Application:* The schedules to this memorandum show the financial provision required for the application of the objectives shown above. Items in Schedule I are shown in order of priority. Details of the methods to be adopted in the application of the objectives are given in the following paragraphs.

14. *Training of African Subordinate Staff:* £430,000 has been provided for a new African Hospital in Lusaka and a training school for African Dispensary Assistants. The old African Hospital will be converted into a hostel for students, and the old African Medical Training School will be converted into a training school for African Sanitary Assistants. In addition, it is proposed to build a hostel for African female student nurses adjacent to the Livingstone African Hospital, and a school for African Midwives adjacent to the Luanshya Clinic. The breakdown of the £430,000 is therefore:

	£
New Lusaka African Hospital and new Medical Training School ...	400,000
School for African Female Nurses	15,000
School for African Midwives	10,000
Conversion of the old hospital into a hostel for students	5,000
TOTAL	£430,000

15. *Rural Health Centres:* £34,000 is provided for forty Rural Health Centres. After consideration of the report of the Financial Relationship Committee, Government has decided that Native Authorities should be obliged to contribute to the capital and recurrent costs of these centres up to 100 per cent. in accordance with their individual ability. As the extent to which different Native Authorities can contribute varies, a token amount of £17,000, being half the capital cost of these centres, has been shown as a charge to the territorial Colonial Development and Welfare allocation, the balance being found from the Northern Rhodesia Development Account. Any contributions received from Native Authorities towards capital costs will be refunded to the territorial Colonial Development and Welfare allocation.

16. *Public Health Work in Rural Areas:* In the rural areas the District Hospital is the natural centre of public health activities. District Medical Officers and their subordinate staff are expected to and, in fact, do devote a considerable portion of their time to preventive duties. The same applies to Rural Health Centres. During the training of African Dispensary Assistants at the Medical Training School, stress is laid upon preventive measures and rural sanitation. In due course, when it becomes possible to train African Sanitary Assistants they will be attached to Health Centres and the work will thereby be intensified. It is also intended to train African Midwives and, later, African Home Visitors. In a number of areas African Itinerant Medical Orderlies are employed by the Native Authorities. These people are trained in Rural Hospitals and their work is becoming more and more rural sanitation rather than treatment of disease. They fulfil a useful purpose but will eventually be replaced by trained African Sanitary Assistants.

17. In addition to the proposed new school for African Sanitary Assistants at Lusaka, it is intended that African Sanitary Assistants should be trained at the Development Centre at Namushakende, in the Mongu District of Barotseland. The recurrent costs of this school will be drawn from ordinary Departmental Votes.

18. *Lusaka European Hospital:* It is not proposed, within the compass of the present Health Plan, to build a new central European hospital at Lusaka, but the rapid increase in the European population of the Capital has necessitated considerable additions to the present European hospital. These should meet the needs of Lusaka for the next six years.

19. *Broken Hill Hospital:* It will be observed that the cost of the new Broken Hill Hospital is to be financed, in part, from the Northern Rhodesia Development Account and, in part, from Northern Rhodesia Loan Funds, and that the latest estimate of the total cost is £700,000.

20. *Kitwe Hospital:* The need for a Government Hospital on the Copperbelt to cater for the general public of all races, other than mine employees, has become abundantly clear. It has been decided that Kitwe would be the best centre for this hospital, which will include special wards for diseases of the chest. The sum provided for this work is £280,000.

21. *Extensions to Mine Hospitals:* £24,000 has been allowed for extensions to the hospitals owned by the mine companies. These extensions are immediately necessary to provide accommodation for patients who are not mine employees, and thus are the responsibility of Government.

22. *Rural Hospitals:* Balovale Rural Hospital is estimated to cost £34,000. The main hospital building is designed to accommodate seventy-four patients, and, in addition, this hospital, in common with other rural hospitals, will have sleeping accommodation for ambulant patients, i.e. villagers who would normally be out-patients, but whose homes are so far away that sleeping accommodation must be provided for them whilst they are undergoing treatment. This accommodation has already been built at Balovale at a cost of £6,000 and allows for fifty patients. In future simpler and less expensive accommodation for ambulant patients will be provided, and it is estimated that a saving will be effected of £4,000 each in the remaining rural hospitals in the Plan.

23. In addition to the Balovale Rural Hospital, it is proposed that four other rural African hospitals should be built. Those at Balovale, Fort Rosebery, Mazabuka and Mongu are replacements of existing and totally inadequate hospitals; the Kawambwa Hospital is a new project. The Mongu Hospital has been estimated at £25,000 only, as certain of the existing buildings can be used as part of the new hospital.

24. *Lusaka African Hospital, Nurses' Home:* Under the Northern Rhodesia Development Account is included £30,000 for a new Nurses' Home for the Lusaka African Hospital. This item should have high priority as the existing accommodation is no longer serviceable.

25. *Stainless Steel Equipment:* £20,000 is provided for stainless steel equipment, in existing hospitals, to replace the present unhygienic enamelware.

26. *Other New Hospitals:* A new European Hospital, to replace the ancient building at Livingstone, is estimated at £[illegible]00,000. For a small wing for the accommodation of European patients at Mazabuka, £7,000 is provided. The new Choma African Hospital, which has been made by converting a building purchased for the purpose, has almost been completed, at a cost of £42,350. It will accommodate seventy-two African patients.

27. *Stimulation of Public Health Work in Urban Areas:* Public health work in the towns is the responsibility of the local authorities, assisted in all cases by considerable grants from Central Government funds and, with the exception of Lusaka and the Copperbelt towns, Medical Officers of Health are members of the Health Department staff. As the towns grow it is proposed that they should employ their own Medical Officers of Health, aided, if necessary, by grants from Central Government.

28. *Welfare Clinics:* Clinics for Europeans and Africans are established in most towns, and responsibility for them is shared by Government and the local authorities. The position is under review and the aim is to shift the responsibility on to the local authorities.

29. African clinics, of necessity, started as treatment centres, but they are concentrating more and more on public health services such as maternity and child welfare services, and medical inspection of schoolchildren. The Government Dentist at the African Hospital, Lusaka, is training African staff in simple dental procedure, a service which will develop later into the training of full-time African Dental Assistants. The sum of £9,400 is provided, under the Plan, for financing the construction, in some cases jointly with the copper mining companies, of six such clinics in urban areas.

30. *Local Research into Endemic Diseases:* Surveys directed towards the collection of information which will facilitate the prevention and treatment of eye diseases, have been carried out on a large scale and will continue. A survey of tuberculosis is well under way.

31. *Leprosy:* It is proposed to make a new approach to the leprosy problem by erecting Leper Parishes which will eventually be self-supporting. The aim is to collect together communities which will consist entirely of lepers and their families. Health facilities will be arranged according to the requirements of the individual communities and will be both preventive, as regards the children, and curative. The item of £5,800 for leprosy centres, which remains unchanged, is in respect of the Ntumbachi Centre, in the Luapula Valley, and the Balovale Centre.

32. *Venereal Disease:* The Venereal Disease Campaign, in the Namwala District, has been completed and residual staff has been left in the district in the hope of preventing a recrudescence of disease. The team has started a new campaign in the Eastern Province.

33. *Yellow Fever:* A scheme is being prepared for renewed research into the endemiology of yellow fever. This will be conducted under the direction of officers of the Virus Research Institute in East Africa, aided by officers of the Northern Rhodesia Health Department. The aim is to delineate accurately

limits of the endemic area and to ascertain the relationship between the endemiology and the enzoology of the disease. At the same time further work will be done on the entomological side. A resurvey will be made of as many people as possible, who were previously found not to be protected, in an effort to discover whether the virus is still active.

34. *Malnutrition:* The proposed new hospital at Kawambwa is a project which should have high priority as it will be an essential part of the proposed survey into the relationship between malnutrition and endemic disease, in the pilot scheme proposed by Dr. Dean Smith, of the London School of Hygiene and Tropical Disease. Separate plans for this scheme have been prepared, and, as it is an agricultural as well as a health project, it is proposed that its cost will be met from outside the financial provisions of the Health Plan.

35. *Revenue:* Though it is not possible to give accurate figures of the revenue for the years concerned in the Plan, because it is not known what number of patients will be treated each year, it is expected that, as more hospitals are completed, the rate of inflow of patients will increase irrespective of the rate of increase of population. Further, a revision of hospital fees is at present under consideration, as mentioned in paragraph 7 above. In the circumstances, the figures for annual revenue for the Health Department that follow can only be taken as very approximate.

36. As regards 1950 estimated revenue is as follows:

Hospital Fees	£12,000
Laboratory Fees...	140
Silicosis Examination Fees	10
Sale of Drugs	4,750
	£16,900

37. As hospital fees will shortly be considerably increased, the following are the estimated revenue figures for the years 1950 to 1956, based upon an arbitrary 7½ per cent. annual increase:

	£
1950	22,900
1951	31,067
1952	33,397
1953	35,901
1954	38,593
1955	41,487
1956	43,598

P. B. ROBINSON,
Director of Medical Services.

SCHEDULE I. SCHEMES IN ORDER OF PRIORITY

Scheme	*Total* £
Extensions to Lusaka European Hospital	25,000
Broken Hill Hospital	700,000
Choma Hospital	42,350
Mental Wards, Livingstone	5,620
Nutrition Survey (up to 31st December, 1950)	6,900
Balovale Hospital	34,000
Fort Rosebery Hospital	30,000
Kawambwa Hospital	30,000
Staff Housing, Lusaka African Hospital	30,000
Extension of African Medical Training School and African Hospital, Lusaka	430,000
Additional African Urban Clinics	9,400
Rural Health Centres	34,000
Stainless Steel Equipment	20,000
Livingstone European Hospital	100,000
Extensions to Mine Hospitals	24,000
Cikankata Hospital and School Extensions	15,000
Kitwe Hospitals	280,000
Mazabuka African Hospital	30,000
Mongu Hospital, excluding administrative and ambulant wards	25,000
Leprosy Centres	5,800
Sleeping Sickness Campaign: Capital	3,300
Recurrent (up to 31st December, 1950, only)	20,000
Mazabuka European Wards	7,000
Entomological Laboratory	21,000
Unallocated	23,360
	£1,952,000

NOTE.—Increased to £1,952,000 to include additional cost of Broken Hill Hospital.

Schedule II.—Estimated Recurrent Expenditure: 1957

	£	£
1950 Estimated Expenditure, plus 7½ per cent. per annum normal expansion of existing services, estimated recurrent cost of existing schemes		800,000
Additional Recurrent Expenditure arising out of new Schemes	55,500	
Extension of African Education	5,000	
Balovale Hospital	5,000	
Fort Rosebery Hospital...	5,000	
Rural Health Centres	7,250	
African Urban Clinics	30,000	
Leprosy Centres	5,000	
Mazabuka African Hospital	8,800	
Mongu Hospital	5,000	
Broken Hill Hospital	35,000	
Livingstone Hospitals	30,000	
Choma Hospital	19,000	
Sleeping Sickness	6,000	
Kawambwa Hospital	15,000	
Kitwe Hospitals	83,250	
Mental Wards, Livingstone	5,500	
		311,300
		£1,111,300
	Say ...	£1,112,000

APPENDIX 12

European Education Department

Revised Development Plan, 1951–56 Inclusive

1. *Preamble.* A plan was drawn up in March, 1950. It assumed on the figures then available tha the enrolment in January, 1957, would be double that of January, 1950. It was pointed out that ther was no means of controlling enrolment and that no reliable basis existed for estimating the futu population, so that the figures given might well be exceeded with a corresponding increase of expenditur both capital and recurrent. The estimate given was, however, consistent with the maximum recurre expenditure laid down by Government, which provided the only indication of official views as to futu population trends.

The year 1950 has shown that new factors are operating. The school population increased by 9 in 1950 or 26 per cent., and by a further 451 in the first quarter of 1951. Immigration totalled 7,390, a the Legislature appointed a committee to examine a scheme for State-aided immigration. New min are being opened up. A figure of 80,000 was quoted as the anticipated population in 1957 in a meeti of the Development Authority and was accepted without question.

It seems clear that a new phase of development is opening up and calls for a new estimate educational requirements.

In the plan which follows it has been assumed that progress will continue for the next six ye with only a slight lowering of the percentage increase in population. Taking 100 as representing school enrolment in March, 1945, the figures for succeeding years are as follows:

March	1945	1946	1947	1948	1949	1950	1951
Enrolment Ratio ...	100	110	130	150	173	212	263

Taking 1951 as a basis with 100 we have as our estimate:

March	1951	1952	1953	1954	1955	1956	1957
Enrolment Ratio ...	100	121	143	167	194	224	257

It is realised that many factors may cause this to be a false estimate—particularly any fluctua in the demand for copper. The plan provided is, however, based on anticipated enrolment figures,

is easily adjusted if the numbers do not justify the buildings at any centre. It is less easy to make adjustments if the estimates are below the actual enrolment figures, and therefore, though restraint has been exercised, it has been thought unwise to be too conservative.

TABLE 1.

GROWTH DURING THE YEARS 1943-1950.

March	1943	1944	1945	1946	1947	1948	1949	1950	1951
Infants	460	502	697	778	910	1,035	1,165	1,351	1,592
Standards 1–V ...	946	981	999	1,412	1,329	1,598	1,901	2,275	2,762
Post-primary ...	253	261	282	286	324	339	354	556	846
TOTALS ...	1,659	1,744	1,978	2,176	2,563	2,972	3,420	4,182	5,200

TABLE 2.

ANNUAL INCREASES

March	1943	1944	1945	1946	1947	1948	1949	1950	1951
Infants	—	42	195	81	132	125	130	186	241
Standards 1–V ...	—	35	18	113	217	269	303	374	487
Post-primary ...	—	8	21	4	38	15	15	202	290
TOTALS ...	—	85	234	198	387	409	448	762	1,018

TABLE 3.

ANNUAL INCREASES, 1943–50, EXPRESSED AS PERCENTAGES OF PREVIOUS YEAR'S ENROLMENT

End of 1st Quarter	1943	1944	1945	1946	1947	1948	1949	1950	1951
Infants	—	9	22	12	17	14	12	16	18
Standards 1–V ...	—	4	2	11	19	20	21	20	21
Post-primary ...	—	3	8	1	11	5	5	57	52
TOTALS ...	—	5	13	10	18	16	15	22	24

TABLE 4.

ANTICIPATED ENROLMENT, 1951–57

	Actual March, 1951	*Anticipated—March* 1952	1953	1954	1955	1956	1957
Infants...	1,592	1,830	2,100	2,410	2,760	3,160	3,610
Standards 1–V ...	2,762	3,310	3,940	4,650	5,440	6,310	7,260
Post-primary	846	1,150	1,400	1,640	1,900	2,200	2,500
TOTALS ...	5,200	6,290	7,440	8,700	10,100	11,670	13,370

TABLE 5.

ANTICIPATED ANNUAL INCREASES.

	Actual March, 1951	*Anticipated—March* 1952	1953	1954	1955	1956	1957
Infants	241	238	270	310	350	400	450
Standards 1–V ...	487	548	630	710	790	870	950
Post-primary	290	304	250	240	260	300	300
TOTALS ...	1,018	1,090	1,150	1,260	1,400	1,570	1,700

TABLE 6.

PERCENTAGE INCREASES

	Actual March, 1951	*Anticipated—March* 1952	1953	1954	1955	1956	1957
Infants	18	15	15	15	15	14	14
Standards 1–V ...	21	20	19	18	17	16	15
Post-primary	52	36	22	17	16	16	14
TOTALS ...	24	21	18	17	16	16	15

TABLE 7.

CLASSROOM REQUIREMENTS FOR INCREASED ENROLMENTS

An average of twenty-five per class is taken as the basis. It should be borne in mind that some existing classrooms need replacing and that some classes will necessarily be small. The average of twenty-five will result in some classes being thirty-six to forty.

March	1951	1952	1953	1954	1955	1956	1957	*Total*
Infants	10	10	11	12	14	16	18	91
Standards I–V ...	20	22	25	28	32	35	38	200
Post-primary ...	12	10	10	10	10	12	12	76
TOTALS ...	42	42	46	50	56	63	68	367

It will be noted that the 1951 increases are included, since provision was not made for these in 1950 and schools are overcrowded.

2. *Cost of Schools for the Increased Enrolments.* (*a*) On the basis of £175 per scholar in primary schools and £275 per scholar for secondary schools an estimate of the costs for the increased enrolment shown in Table 5 would be—

TABLE 8.

	COST IN £000 OF SCHOOLS FOR INCREASED ENROLMENT							
	1951	1952	1953	1954	1955	1956	1957	*Total*
Infants	42	42	47	54	61	70	79	395
Standards I–V ...	85	96	110	124	138	156	174	883*
Post-primary ...	80	84	68	64	71	80	80	527*
TOTALS ...	207	222	225	242	270	306	333	1,805

**N.B.*—To the cost of the post-primary group must be added the cost of secondary schools for the 556 scholars in secondary classes in primary schools in 1950=£152,000, making the total cost for post-primary scholars £680,000. For the same reason the primary costs will be reduced by £175 for each of these 556 pupils=£97,000, giving a total for Standards I to V of £786,000.

The revised total costs are therefore:

Infants	£395,000
Standards I–V	786,000
Post-primary...	680,000
	£1,861,000

(*b*) Detailed tables are given later in Part II of actual building requirements at each centre. The figures given there will not correspond except very roughly with the globular sums mentioned here. Technical education is included here with secondary education. Details are given later.

3. *Boarding Accommodation.* The present shortfall is approximately 160, apart from children leaving the Territory at present for secondary education, some of whom are likely to remain when facilities are available.

The total increased demand is estimated at:

Secondary, including technical: 480.

Primary, 600 less 100 places at present occupied by secondary pupils: 500.

Total=980.

At £600 per place this amounts to £588,000.

4. *Additional Requirements for Europeans.*

School Halls, say £100,000 (for existing schools without halls).

Seaside Camp School £60,000.

5. *Indian and Coloured Education.* No adequate provision exists for either of these except at the Coloured School at Katapola.

Proposals for Coloured and Indian Education have been submitted to Government and detailed estimates cannot at present be submitted. Dr. Kreft's Committee on Coloured Persons also made proposals.

A block sum of £250,000 should be adequate to replace present inadequate accommodation and to cope with increases.

6. *Emergency Buildings.* It is suggested that a sum of £200,000 should be made available for use at the discretion of the Director for temporary and prefabricated buildings and to cope with emergencies.

7. TABLE 9.

SUMMARY OF COSTS

	£	£
School Buildings—Infants	395,000	
Primary	786,000	
Post-primary	680,000	
		1,861,000
Hostels		588,000
School Halls		100,000
Seaside Camp School		60,000
Indian and Coloured Schools		250,000
Provision for Emergency Buildings		200,000
TOTAL		£3,059,000

PART II

1. *Estimated Growth at Individual Centres.* (*a*) These are intended merely as a guide to the dates when new buildings will be necessary. The names of present schools and towns are used to indicate a district rather than to show the growth of a particular school. No great degree of accuracy is claimed for individual estimates.

(*b*) TABLE 10.

ESTIMATED NUMBER OF SCHOLARS

a=infants; *b*=Standards I–V; *c*=post-primary; *d*=total.

Figures are for March of each year.

		Actual 1951	1952	1953	1954	1955	1956	1957
Livingstone	*a*	98	112	125	142	155	167	175
	b	136	163	190	218	250	285	320
	c	32	43	54	63	74	86	100
	d	266	318	369	423	479	538	595
Choma	*a*	30	depends on water supply.					60
	b	70						110
	d	100						170
Mazabuka	*a*	41	depends on water supply.					50
	b	68						110
	d	109						160
Silver Rest	*a*	15	depends on date of new school.					30
	b	23						60
	d	38						90
Lusaka	*a*	183	200	220	248	285	310	350
	b	480	580	660	750	850	970	1,100
	c	223	325	420	500	580	670	720
	d	886	1,105	1,300	1,498	1,715	1,950	2,170
Broken Hill	*a*	148	160	178	197	220	248	280
	b	263	312	363	415	475	536	600
	c	99	125	150	170	186	202	220
	d	510	597	691	782	881	986	1,100

		Actual 1951	1952	1953	1954	1955	1956	1957
Ndola	*a*	80	95	113	133	154	177	200
	b	162	190	222	255	296	340	400
	c	38	52	70	88	107	128	150
	d	280	337	405	476	557	645	750
Kitwe	*a*	295	350	400	450	490	520	550
	b	494	595	700	795	895	1,000	1,115
	c	140	205	270	325	370	410	440
	d	929	1,150	1,370	1,570	1,755	1,930	2,105
Luanshya	*a*	237	258	288	316	348	385	430
	b	376	424	500	600	705	795	850
	c	135	172	205	238	264	293	320
	d	748	854	993	1,154	1,317	1,473	1,600
Mufulira	*a*	250	272	290	310	324	338	350
	b	366	434	493	540	580	618	650
	c	107	142	180	213	246	273	300
	d	723	848	964	1,063	1,150	1,229	1,300
Chingola	*a*	156	190	230	268	300	324	350
	b	271	332	400	468	555	660	800
	c	72	96	125	152	182	215	250
	d	499	618	755	888	1,037	1,199	1,400
Fort Jameson	*a*	22	25	30	33	35	38	40
	b	33	35	40	50	60	75	90
	d	55	60	70	83	95	113	130
Kasama	*a*	10	12	14	17	20	22	23
	b	1	3	6	10	20	20	22
	d	11	15	20	27	40	42	45
Abercorn	*a*	13	15	17	19	21	24	28
	b	6	10	10	15	20	25	32
	d	19	25	27	34	41	49	60
Kafue	*a*	6	8	10	12	14	17	20
	b	10	15	20	25	30	35	40
	d	16	23	30	37	44	52	60
Chilanga	*a*	8	15	25	28	32	36	40
	b	2	15	30	35	43	51	60
	d	10	30	55	63	75	87	100
Woodlands	*a*							60
	b							120
	d							180
Emmasdale	*a*							50
	b							100
	d							150

		Actual						
		1951	1952	1953	1954	1955	1956	1957
Rhodesdale	*a*							
	b							40
								60
	d							
								100
Rural Schools	*a*			30	65	100	150	200
	b			15	35	50	75	100
	d			45	100	150	225	300
New Townships and Special Schools								
								880

2. *Post-Primary Education (including Technical).*

(1) Special buildings are needed for apprenticeship classes at all centres except Kitwe.

(2) In estimating the number of scholars for post-primary education it has to be borne in mind that the growth in secondary classes during 1950 and 1951 has been abnormally high, since Forms III and IV have been included for the first time in these years.

(3) In the Union of South Africa 23 per cent. of the school population are receiving post-primary education. It is likely that numbers of Northern Rhodesia parents will continue to send their children out of the Territory even when secondary schools have been built. This year approximately 800 Southern Rhodesia children have left the country although good secondary schools exist, chiefly because many parents prefer boarding schools and cannot send their children to them if within five miles.

(4) It is generally agreed that the upper compulsory age limit should be extended to sixteen. This has not been possible up to the present, but should be introduced as soon as possible.

(5) In view of the above, it has been estimated that just under 20 per cent. of the school population of the Territory will be in secondary schools by 1957.

(6) One technical school and one commercial school will probably be justified by 1956 and should be built in 1955, possibly at Kitwe or Luanshya, and Ndola respectively, but later development will show the most suitable place. Hostels will in any case be necessary.

3. *Primary Education.*

(*a*) A number of projects were approved in 1950, and funds for some were included in Public Works Extraordinary estimates. These are enunciated in the following tables for completeness but no price is indicated since they are not a charge against Development account.

(*b*) The Development Authority approved of the extension of the new infants' schools in May and again in November, 1950. Work has not yet started on these.

4. *New Buildings Required with Approximate Costs (in thousands).*

1951 *Schools*	£000
(*a*) Outstanding 1950 commitments on Public Works Extraordinary list:	
Abercorn, Kasama, Rhodesdale, Chilanga, Choma.	
(*b*) Outstanding 1950 commitments, Development:	
Extensions to infants' schools.	
Fort Jameson, Emmasdale, Silver Rest.	
(*c*) New—	
Lusaka Boys' School	45
Kitwe Primary School	45
(*d*) F.S.M.s in construction	60
	150+

Hostels	£000
(*a*) Outstanding 1950 commitments on Public Works Extraordinary list:	
Choma.	
(*b*) Outstanding 1950 commitments, Development:	
Fort Jameson, Silver Rest.	

1952			
(*a*) *Secondary Schools*			
Lusaka Boys', Stage 1	72		
Lusaka Girls', Stage 1	72		
Kitwe	75		
Mufulira	75		
Luanshya	75		
(*b*) *Primary Schools*			
Codrington	15		
(*c*) *Infants or Primary*			
Ndola	30		
Woodlands	10		
(*d*) *Rural School*	8		
	432		
1953			
(*a*) *Secondary Schools*			
Broken Hill, Stage 1	75		
Chingola, Stage 1	75		
(*b*) *Primary Schools*			
Luanshya	45		
Chingola Extensions	10		
Kafue	5		
(*c*) *Infants' Schools*			
Kitwe	45		
Livingstone	35		
(*d*) *Rural School*	8		
	293		
1954			
(*a*) *Secondary Schools*			
Lusaka Boys', Stage 2	30		
Lusaka Girls', Stage 2	30		
Kitwe, Stage 2	35		
(*b*) *Primary Schools*			
Mufulira	45		
Chingola	45		
(*c*) *Special School*	30		
(*d*) *Infants' School*			
Lusaka	40		
(*e*) *Rural School*	8		
	263		
1955			
(*a*) *Secondary Schools*			
Luanshya, Stage 2	35		
(*b*) *Technical School*	60		
(*c*) *Commercial School*	35		
(*d*) *Primary Schools*			
Broken Hill	40		
(*e*) *Infants*			
Chingola Extensions	20		
Luanshya	40		
(*f*) *Rural School*	8		
(*g*) *School Halls*	50		
	288		
(*a*) *Secondary Hostels*			
Lusaka Boys'	58		
Lusaka Girls'	58		
(*b*) *Primary Hostels*			
Lusaka	35		
Codrington	25		
Rural School	25		
	201		
Broken Hill (2)	70		
Lusaka Secondary (2)	100		
Rural School Hostel	25		
Special School Hostel	25		
	150		
Technical Hostel	58		
Commercial Hostel	58		
Rural Hostel	25		
	141		

1956

(a) Secondary Schools		
Mufulira, Stage 2	35	
Ndola, Stage 1	75	
Lusaka Secondary Hostels (2)		100
Camp School Hostel		40
Rural Hostel		25
(b) Primary Schools		
Lusaka	45	
Livingstone	40	
Kitwe	45	
(c) Rural School	8	
(d) Camp School	30	
(e) School Halls	50	
	328	165

TABLE 13.

SUMMARY OF ITEMS IN TABLE 12

	Schools £000	*Hostels* £000	*Total* £000
European Schools—1951 ...	150	—	150
1952 ...	432	201	633
1953 ...	293	70	363
1954 ...	263	150	413
1955 ...	288	141	429
1956 ...	328	165	493
	1,754	727	2,481
Emergency Fund			200
Indian and Coloured			250
			2,931

TOTAL equals £2,931,000.

These figures approximate closely to those given in Table 9. If examined by categories it will be found that the secondary figures are higher than Table 9. This is due to the fact that Stage 1 of the secondary schools is the most expensive. The costs of infants' schools are lower than Table 9 because the junior and infants' stages will be in the same schools at some centres.

POSITION IN RELATION TO DEVELOPMENT FUND

	£
Amount voted	981,550
Amount allocated excluding Secondary Schools and Lusaka Primary	465,666
Balance available	515,884
Amount required as per Table 13	2,931,000
Less balance available	515,884
Additional amount required	£2,415,116

PART III.—Recurrent Expenditure

TABLE 14.—PERSONAL

	1951	1952	1953	1954	1955	1956	1957
	£	£	£	£	£	£	£
Director of European Education	1,700	1,700	1,700	1,700	1,700	1,700	1,700
Deputy Director of European Education	1,450	1,450	1,450	1,450	1,450	1,450	1,450
Inspectors	1,320	1,320	2,505	2,550	3,780	3,870	3,960
Inspectress	984	1,020	1,056	1,056	1,056	1,056	1,056
Schools' Medical Officer	1,005	2,045	2,135	2,225	3,235	3,370	4,510
Schools' Dental Officer	1,050	2,030	3,045	3,160	3,195	4,115	4,275
Educational Psychologist	1,005	1,050	1,095	1,140	1,185	1,230	1,275
Speech Therapist	600	624	648	1,372	1,420	1,468	1,596
Secretary	1,000	1,000	1,140	1,185	1,230	1,275	1,320
Supervisor of Technical Education	1,320	1,320	1,320	1,320	1,320	1,320	1,320
Assistant Supervisor of Technical Education	891	1,580	2,270	2,990	3,100	4,000	4,200
Instructor	—	—	1,005	2,055	3,150	4,155	4,335
Supervisor of Special Subjects	765	790	815	840	870	900	930
Assistant Accountant	19,777	20,380	28,230	33,350	38,850	44,350	49,850
Principals	45,845	58,600	72,100	87,100	103,600	122,150	143,350
Masters	95,002	108,750	124,100	140,600	159,300	180,200	202,250
Mistresses	6,152	7,320	7,520	8,500	9,500	10,000	10,750
Clerks	—	860	1,320	1,400	1,500	2,000	2,200
Dental Assistants	—	860	910	950	1,420	1,500	2,000
Medical Assistants	390	1,170	1,600	1,700	2,200	2,600	3,000
Medical and Dental Clerks	2,336	2,800	3,000	3,900	4,100	5,000	6,000
Matrons (Grade A)	2,525	3,250	5,000	6,050	7,100	8,200	9,250
Matrons (Grade B)	1,800	2,000	3,200	4,000	4,800	5,400	6,600
Caretakers	100	400	400	400	400	500	500
Visiting Lecturers	12,274	20,000	25,000	29,000	33,000	38,000	44,000
Reliefs	4,440	5,000	6,000	7,000	8,000	9,000	10,000
Clerical Assistance	1,284	1,600	1,900	2,200	2,500	3,000	3,500
Hostel Allowances	486	600	800	1,000	1,200	1,400	1,500
Matrons' Assistant	600	600	490	510	530	550	570
Assistant to Director of European Education	156	190	300	320	480	510	550
Graded African Staff	4,407	5,000	6,000	7,000	8,000	9,000	10,000
Ungraded African Staff	2,639	3,600	4,500	5,500	6,600	7,800	8,500
Other African Staff							
TOTALS	£213,303	£258,909	£312,554	£363,523	£420,271	£481,069	£546,29

TABLE 15.—OTHER CHARGES

	1951	1952	1953	1954	1955	1956	1957
	£	£	£	£	£	£	£
Travelling Allowances	2,257	3,000	4,000	5,000	6,000	6,500	7,0
Travelling on Leave	8,783	8,500	9,000	10,000	11,000	12,000	13,0
Travelling on Appointment	3,680	4,000	4,500	5,000	5,500	6,000	6,5
Transport—General	2,538	3,000	3,500	4,000	4,500	5,000	5,5
Transport of Stores	400	450	500	550	600	650	7
African Staff—Rations	1,872	2,100	2,800	3,200	3,700	4,000	4,5
African Staff—Uniforms	619	750	900	1,050	1,200	1,350	1,5
Publications and Advertisements	600	650	700	750	800	850	9
Upkeep of Hostels	18,572	23,000	35,000	45,000	53,000	60,000	70,0
Upkeep of Schools	4,918	6,000	7,800	9,100	10,400	11,700	13,0
Books and Stationery	10,204	12,000	14,000	16,500	20,000	23,000	27,0
Assistance—Aided Schools	358	380	400	500	600	700	8
Educational Assistance	67,117	65,000	60,000	55,000	50,000	45,000	40,0
Schools, Bursaries and Training Grants	11,650	13,000	16,000	20,000	25,000	25,000	25,0
Technical Classes	3,861	4,500	5,000	5,500	6,000	6,500	7,0
Assistance—Coloured and Asiatic	10,928	14,000	17,000	20,000	25,000	30,000	35,0
Youth Organisations	325	500	600	700	800	900	1,
Office Expenses	48	60	72	84	96	100	
Milk, Food, etc.	10,000	20,000	25,000	27,250	30,000	32,500	35,
Advisory Boards and Committees	546	600	600	600	700	700	
Katapola	7,293	9,000	10,000	10,500	11,000	11,500	12
Repairs—Motor Vehicles	450	550	600	700	800	900	1
Repairs—Furniture	—	500	600	700	800	900	1
Courses of Instruction	150	200	250	300	350	400	
Subsidies—Universities and Schools	100	5,000	7,500	10,000	10,000	15,000	1
Dental Treatment	10,000	9,000	8,000	7,000	6,000	5,000	
Adult Education	—	600	1,800	1,500	2,000	2,500	
Special Transport (School Camp)	—	—	200	500	1,000	2,000	
Vocational Education	—	1,000	3,000	6,000	9,000	12,000	1
Motor Vehicles	1,500	2,000	1,000	2,000	1,000	2,000	
Furniture and Equipment	8,571	10,500	12,000	13,500	15,000	16,500	1
Commercial Training Equipment	1,600	2,500	3,000	3,500	4,000	4,000	
Typewriters and Office Machinery	495	600	600	500	500	400	
Miscellaneous Development and Special Equipment		5,000	10,000	12,000	14,000	17,000	2
TOTALS	£189,435	£227,940	£265,122	£298,484	£330,346	£362,550	£39

TABLE 16.—SUMMARY OF RECURRENT CHARGES

(Tables 14 and 15)

	1951	1952	1953	1954	1955	1956	1957
	£	£	£	£	£	£	£
Personal	213,303	258,909	312,554	363,523	420,271	481,069	546,297
Other Charges	189,435	227,940	265,122	298,484	330,346	362,550	394,100
TOTALS	£402,738	£486,849	£577,676	£662,007	£750,617	£843,619	£940,397

APPENDIX 13

AFRICAN EDUCATION

Head	Sub-head		Allocation from Development Plan at 1st January, 1951	Period	Revised Cost	Expenditure to 31st December, 1950	Estimated Expenditure, 1951–56
			£		£	£	£
98	31	Additional Staff...	9,925	1947–49	9,925	9,925	—
	32	Area Team Staff	4,242	1947–49	4,242	4,242	—
	33	Provincial Schools	1,932	1948–49	1,932	1,932	—
	34	Barotse National School	8,628	1947–49	8,628	8,628	—
	35	Jeanes School	1,912	1947–49	1,912	1,912	—
	36	Secondary and Trades School...	4,719	1947–49	4,719	4,719	—
	37	Girls' Boarding School	961	1947–48	961	961	—
	38	Government and Assisted Primary Schools	5,947	1947–49	5,947	5,947	—
	39	Government School Buildings...	189,360	1947–55	312,400	77,385	235,015
	40	Building Grants to Missions	122,500	1947–55	122,500	40,669	81,831
	41	Building Grants to Village Schools	177,500	1947–55	162,500	61,799	100,701
	42	Capital Expenditure—Development Area Schools ...	43,500	1947–55	43,500	26,717	16,783
	43	Mass Literacy	5,000	1947–51	5,000	3,400	1,600
	44	Grants—Scouts and Guides Associations	2,050	1947–55	2,050	2,050	—
99	21	David Livingstone Secondary School*	132,445	—	190,000	57,000	133,000
	22	Technical School, Munali	12,000	—	12,000	11,131	869
—	—	Industrial Training Centre	—	—	32,000	—	32,000
		Unallocated	740,742	—	—		—
		TOTALS	£1,463,363		£920,216	£318,417	£601,799

* £60,445 included at Head 98 in 1951.

ANNEXURE TO APPENDIX 13

African Education: Adjustment Plan 1951-1957

The African Education Development Plan summarised in pages 17 to 24 of the Approved 1947 Development Plan will continue to be the basis of the revised plan for African Education, but this will now require adjustment in two main directions, (1) a revision upwards of the costs of the original plan which is inescapable, and (2) inclusion of provision for some additional expansion found to be absolutely essential in the light of experience since 1947.

2. This "adjustment plan" introduces new assumptions regarding financial responsibility. It is now assumed that, in accordance with the recommendations contained in paragraph 217 of the report of the Financial Relationship Committee (1949), Native Authorities will be closely associated with the Central Government in the administration, control and financing of all primary education in their areas up to Standard IV (i.e. the first six years of education), and that the cost of establishing local education authorities and a unified African teaching service which are necessary for implementing these recommendations will be shared by the Central Government and the Native Authorities. The extra cost to the Central Government of these schemes will be approximately £17,000 plus £30,000 for teachers' pensions (based on a contribution of 15 per cent., half from employer, half from employee) on the assumption that the Central Government's liability for teachers will in future be limited to their salaries, cost-of-living allowance and pensions, and that Native Authorities will assume responsibility under the local education authority scheme for all other unified service expenses of the teachers serving in their areas (uniform allowance, furniture, transfers and leave). It is also assumed that the recommendation that Native Authorities should be responsible for boarding grants for pupils up to Standard IV in their areas will be agreed. On these assumptions it is estimated that the recurrent cost to the Central Government of the revised plan for African education will be approximately £700,000 in 1956, leaving approximately £70,000 to be contributed by Native Authorities. Until Native Authorities have proved their willingness and ability to meet this cost the further proposal that they should be allowed to expand their education services towards universal elementary education, which would cost them some £120,000 extra to achieve by 1956, must remain an aim of policy to be reviewed at some future date.

The 1947 plan is amended in the following respects:

Elementary Education (Sub-standard A to Standard II—4 years).

3. To be provided for 140,000 children instead of 120,000. (Allowing for increase in population it is estimated that 190,000 children would have to be provided for to achieve universal elementary education by 1956.) The actual enrolment in maintained and assisted schools was 125,167 in March, 1947, and 126,006 in March, 1951. A policy of consolidation will be continued except in the railway line compulsory education areas, where it is now necessary to provide for a school population of 38,000 instead of 18,000 the figure originally estimated for 1956. It has been necessary to suspend application of the compulsory education regulations in the Copperbelt until provision is made for the additional accommodation required and the training of staff. It should be noted that capital costs have risen sharply, particularly in urban areas where the essential expansion is required.

Middle Course (Standards III and IV—2 years).

4. No change is proposed in the extent of the provision (17,000 places) referred to in paragraph 61 of the 1947 plan. The principle that this course should be provided for all children in the railway line compulsory education areas who complete the elementary course and for one in four in all other areas is still operative. The total number of Middle School sections planned is 300. Enrolment on this course totalled 14,570 in March, 1951.

Upper Course (Standards V and VI—3 years).

5. The total number of sixty Upper School sections approved in the 1947 plan (paragraph 62) is retained, but the number of pupils to be provided for is increased from 3,750 to 5,000. Classes will be of a more economic size, twenty-five to thirty, and the output of 1,500 per annum from Standard VI will meet the bare minimum requirements of the Territory which were resurveyed in 1948. All boys' Upper Schools and a growing number of the girls' schools are now offering the three-year course to allow ample time for practical education and training in citizenship, and the standard of this work is being steadily improved with the assistance of a Supervisor of Trades Education appointed in 1949. A total of 3,822 boys and 311 girls were enrolled in March, 1951.

Junior Secondary Course (Forms I and II—2 years).

6. The 1948 survey disclosed a decidedly increased demand by Government departments for candidates with Junior Secondary qualifications, and the need for more secondary education was emphasised in paragraph 140 of the review of the Ten-Year Development Plan (1948). It is necessary to increase the provision from 250 to 500 places, distributed between six Government schools—Munali, Chalimbana, Kitwe, Mongu, Kasama and Katete, and four mission schools. In March, 1951, 267 boys and 22 girls were enrolled at Munali, Chalimbana, Chikuni, Mapanza and Chipembi.

Senior Secondary Course (Forms III, IV and V—2½ years).

7. The new Munali Secondary School which is nearing completion is planned for 250 boys, instead of 75, with a distribution of 150 in Forms III and IV and 100 in Forms V and VI. The present enrolment is Form III, 49; Form IV, 28; Form V, 20; Total 97. It is not proposed to establish another senior secondary school before 1957.

Higher Education.

8. The draft estimates for 1952 provide for this Territory's share of the costs of a commission to consider the problem of providing higher education for Africans in Central Africa. Meanwhile provision for bursaries at the rate of £4,000 per annum, rising to £5,000 in 1956, is included in the revised plan.

Teacher Training.

9. Training schools have been organised in accordance with paragraphs 65 and 66 of the 1947 plan, but one of the two mission "high grade" centres has not yet come into operation. The numbers of teachers of various categories under training annually are being controlled in accordance with paragraph 59 (*e*) of the 1947 plan. The results of the first five years of training under the 1947 plan are summarised below:

(*a*) T.5 Junior or Ungraded Teachers (One year post-Standard IV). Increase quota allowed for the five-year period, 150. These have been trained and a total of 1,187 men and 237 women engaged as untrained teachers before 1947 have successfully completed the course. The training of T.5 men teachers has been discontinued but the training of women teachers for replacing casualties continues.

(*b*) T.4 Elementary School Teachers (two years post-Standard VI); T.3 Middle School Teachers (two years post-Standard VIII, or retraining of serving T.4 teachers); T.2 Upper School Teachers (two years post-Standard X or School Certificate). Increase quota allowed for the five-year period, 850 T.4 and 312 T.3 and T.2—total 1,162. The total number trained during the period was 1,063 T.4 and 145 T.3—total 1,208, but casualties over the same period reduced the net increase to only 686. Approximately 43 per cent. of the annual output is required to replace a wastage of approximately 5 per cent. of the total establishment—a rate which is not abnormal. The deficiency in net annual increase has been partly adjusted by the increased production of T.5 teachers referred to above. It will be necessary to open one more training school in the Copperbelt to meet the extra requirements of that area and provision has been made accordingly.

Technical Education.

10. Provision in the 1947 African education plan was limited to 150 students at the Munali Trades School (paragraph 69). A two-year handyman's course was to be provided at the seven Development Area Schools which were to be financed by a separate reserve fund scheme under African Rural Development — Head III of the original plan (paragraph 63). The need for more artisan training was also referred to in paragraph 140 of the 1948 review of the Development Plan. Provision was included in the 1950 and 1951 departmental estimates for a Superintendent of Technical Education, for Principals for an Industrial Training Centre and for a senior trades school; for establishing or developing post-Standard IV trades schools at Lukashya, Chalimbana, Livingstone, Broken Hill, Kitwe, Mufulira, Luanshya and Mongu; and trades sections at the Kabompo and Serenje Development Area Schools. Provision was also made in the 1951 estimates for mission post-Standard IV trades schools at Malole, Kafue, Chingombe (= Mpanshya), Chikuni, Chikankata, Chitokoloki, Lubwe and St. Mary's Mission near the Copperbelt.

The whole scheme for technical education has recently been under review in consultation with Dr. F. J. Harlow, the Adviser on Technical Education to the Secretary of State, and the plan now proposed is summarised hereunder.

(*a*) *Post-Standard V.*

11. It is proposed that the Industrial Training Centre should not be started for the present and that consideration should be given at a later date to establishing an institution at post-secondary level. Meanwhile, the Munali Trades School will be developed as a post-primary technical institution providing the three-year course for artisans and the further two-year course for instructors, as at present, and, in addition, courses for the City and Guilds of London Certificates of the type originally envisaged for the proposed Industrial Training Centre. It is also proposed to provide evening classes for artisans in employment.

At present there are 159 students, including twenty instructors, in training, and accommodation for 300 will become available at the end of the year when the secondary school moves to its new buildings. Expansion of the accommodation at the Munali Training Centre to include the 180 places originally planned for the Industrial Training Centre is envisaged with additional workshop accommodation, including a general engineering department. This expansion and some rebuilding will absorb the capital expenditure of £32,000 provisionally allocated as an approximate estimate for the Industrial Training Centre. The European staff required for the institution when it is fully developed will be a Principal and ten Technical Masters and Instructors. Houses for nine European Officers and the African staff have been erected at the Centre.

(*b*) *Post-Standard IV.*

12. The full programme envisaged is ten Government trades schools which will be completed by the addition of Chingola and Fort Jameson to the list of eight given in paragraph 10 above. Each will have an intake of twenty students per annum to a three-year specialist course in either bricklaying or carpentry, giving a total of 660 places, including a double stream at Lukashya where accommodation for 120 is already available. Courses in other trades will be introduced when the demand for builders slackens. A European Instructor and four African Instructors will staff each school, and where a school building construction team is based on a trades school, e.g. in the Copperbelt centres, a European building foreman will be attached for supervision of the outside work.

Pending the development of the Munali Trades School as outlined above and the introduction of a two-year apprenticeship scheme for those completing the three-year course the trades school at Chalimbana will accept " improvers " from the other trades schools for a further two-year course of practical training.

Mission Trades Schools.

13. A similar expansion in the rural areas of mission-managed trades schools providing a three-year post Standard IV course is planned. As soon as the number of these schools has been increased from eight, as listed in paragraph 10 above, to ten, the temporary expedient of providing long trades courses for juveniles at Development Area Schools will be discontinued for reasons given in the next paragraph. In size (sixty pupils), staffing and type of course provided the mission schools will be similar to the Government institutions described in paragraph 12 above.

Development Area Schools (African Rural Development).

14. Experience has shown that if these schools are to function properly as adult education centres providing such courses as rural development may require, including refresher courses requested by departmental officers engaged in the various aspects of African rural development, they must be staffed by experienced Education Officers able to make a full contribution to the teams' work through both the activities of the centre and extension work in the development areas. The Technical Sub-Committee of the Development Authority has strongly supported this decision. Since Education Officers will replace the technically qualified European Headmasters originally considered suitable for appointment to Area Schools, it will not be feasible to attempt long trades courses for ex-Standard IV boys at Area Schools. Fortunately the ready response, already indicated, of the missions to the suggestion that they should take over this work in separate institutions has enabled a satisfactory solution to be found to this problem of providing trades training in rural areas.

Adjustments have accordingly been made to the Area School plan outlined in paragraphs 63 and 64 of the 1947 Development Plan. Recurrent expenditure on Area Schools, originally estimated under Head III, African Rural Development, of the 1947 Development Plan, is now financed under the African Education vote, and expenditure on mission trades schools will be financed under the Area School allocation for the reasons given above. Other departments conducting departmental courses at Area Schools will meet the recurrent costs under their own votes. The original plan for seven Area Schools—Katete, Serenje, Fort Rosebery, Namushakende, Kawambwa, Kabompo and Lukashya—has been amended by substituting Monze for Lukashya which is now to continue as a trades school. Decisions have not yet been taken to go ahead at Kabompo, where a European Officer's house has been built, or to start at Monze. Education Officers have been posted to three of the schools, another is staffed by a temporary Headmaster and the fifth will be ready for occupation soon. The accommodation at each school will allow a maximum of ninety-six single students or twenty-four married couples.

Community Service Camps.

15. The success of this experiment has now been placed well beyond doubt. Camps for the Copperbelt Upper Schools will continue to be organised annually and the scheme is being extended, e.g. in the Barotse and Northern Provinces. Expenditure of approximately £1,200 to £1,500 per annum is planned.

Mass Literacy.

16. This remains the African Education Department's only recurrent expenditure scheme financed under the Colonial Welfare and Development allocation. Expenditure of £500 per annum is estimated for to cover the cost of training supervisors at Area Schools for Native Authorities and welfare organisations and the production of mass literacy primers.

17. Summaries of the staff requirements and of the financial implications are as follows:

SUMMARY OF EUROPEAN STAFF

The staff required by 1957 to ensure the effective administration and control of the educational system and staffing of institutions will be:

Post	*Establishment* 1951	1957	*Notes*
Director	1	1	
Deputy Director	1	1	
Assistant Director	1	1	
Senior Woman Education Officer	1	1	
Superintendent of Technical Training	1	1	
Supervisor of Trades Education	1	1	
Adult Education Officer	36	54	(*a*)
Education Officers	12	14	(*b*)
Women Education Officers	3	4	(*c*)
Principals	18	25	(*d*)
Masters (Technical) and Industrial Instructors ...	1	1	
School Welfare Officer...	1	1	
Secretary	1	1	
Accountant	5	16	(*e*)
Clerks (Male)			

Notes:

(*a*) 24 for administration and inspection;
7 for Area Schools;
5 for teacher-training;
12 for senior secondary school (including Form VI);
6 for junior secondary schools.

(*b*) 7 for administration and inspection;
7 for teacher-training and teaching.

(*c*) Jeanes Training Centre, Munali Secondary School, Munali Trades School and Lukashya Trades School.

(*d*) 10 for senior technical training.
1 for secondary school;
10 for trades schools;
4 for relief staff.

(*e*) 2 for Headquarters;
3 for institutions;
8 for local education authorities;
3 for relief staff.

SUMMARY OF CAPITAL EXPENDITURE

	Colonial Development and Welfare Funds					Northern Rhodesia Development Account	Total
	Government School Buildings	Building Grants: Missions	Building Grants: Village Schools	Development Area Schools	Secondary School		
	£	£	£	£	£	£	£
1952	124,800	27,150	18,100	7,200	15,000	42,555	234,805
1953	56,400	11,850	18,000	8,000	—	—	94,250
1954	24,200	10,000	18,000	—	—	—	52,200
1955	—	10,000	18,000	—	—	—	28,000
1956	—	10,000	17,150	—	—	—	27,150
Expenditure to 31st December, 1951	205,400	69,000	89,250	15,200	15,000	42,555	436,405
	107,000	53,500	73,250	28,300	—	60,445	322,495
Totals	£312,400	£122,500	£162,500	£43,500	£15,000	£103,000	£758,900
Add: Loan Expenditure							84,000
Unallocated							32,000
Totals							£874,900

Recurrent Expenditure: 1952 to 1956

	£
1952...	569,000
1953...	610,000
1954...	643,000
1955...	673,000
1956...	699,000

Note.—This expenditure does not include cost-of-living allowance to Aided Teachers (£31,000 in 1952), pension contributions to Unified Teaching Service (estimated at £30,000 in 1956), or contribution by Native Authorities.

AFRICAN EDUCATION

Allocation of Recurrent Expenditure: 1956

	Original Costs of Approved Plan	Revised Costs in 1950 of Approved Plan	Essential Expansion Closer Control Unified Teaching Service	Total Government Expenditure	Expenditure by Native Authorities	Grand Total
	£	£	£	£	£	£
Primary	302,500	492,250	103,450	525,700	70,000	595,700
Secondary	15,000	19,000	27,000	46,000	—	46,000
Teacher-Training	13,100	27,450	5,000	32,450	—	32,450
Trades and Technical	6,000	11,250	47,250	58,500	—	58,500
Rural Development	— (*a*)	28,800 (*b*)	—	28,800	—	28,800
Bursaries	— (*a*)	5,000	—	5,000	—	5,000
Community Service Camps	— (*a*)	—	1,500	1,500	—	1,500
Special Courses	— (*a*)	—	1,050	1,050	—	1,050
Totals	£336,600	£583,750	£185,250	£699,000	£70,000	£769,000

(*a*) Provision not included in original 1947 African Education Plan.

(*b*) Includes Development Area Schools (rural adult education centres) and mission post-Standard IV Trades Schools.

APPENDIX 14

Aerodromes

	£	£
Livingstone Airport		
Stage I.		
Modifications and Final Adjustments to the Main Runway		10,000
Stage II.		
Improvements and Modifications to the Buildings:		
Control Tower Ventilation	700	
Control Tower Weather and Mosquito Services	500	
P.W.D. Store and Workshop	700	
Civil Aviation Store and Workshop	200	
Restaurant—African Staff Toilet	130	
Waterborne Sanitation: European Houses	200	
Aircraft Sewerage Disposal	120	
Mosquito-proofing, Chalet Verandah	140	
Improvements: Zambezi and Altim Quarters	200	
Other Minor Additions	985	
Colorex Glass for Terminal Building	450	
Hose Drying Tower	120	
		4,445
Water Supply (additions):	7,200	
Piping for Second Rising Main	400	
Transmitter Station Supply	350	
Telephone Line to Pump House	350	
Enlarging of Pump House for Standby Equipment	70	
Fencing	600	
Housing for three Attendants	800	
Chlorination System and Venturimeter		9,670
		2,860
Electrical Extensions, including Additional Transformers		
Internal Roads:	40	
Direct from Hardstanding to Crash Aid Room	500	
From Control Buildings to Transmitter Building		540
Aerodrome (additions):	55,000	
Parallel Taxi Track and Improvements to Secondary Runway	7,010	
Hardstanding for Jet Aircraft	330	
Taxiway for Light Aircraft	520	
Widening of Concrete Connection between Hardstanding and Hangar Apron	120	
Oil Sand to Prevent Dust around Control Tower and Transmitter Buildings	4,500	
Perimeter Game Fence	75	
Passenger Control Barriers...		67,555
		£95,070

APPENDIX 15

Water Development and Irrigation

From the commencement of the Development Plan until the end of 1950, £380,358 was spent on Water Supplies and Irrigation in rural areas. The requisite plant and equipment was purchased, and 775 wells, 155 earth dams, and 22 weirs were constructed throughout the Territory. Irrigation work was confined to minor schemes and the preliminary investigation of major schemes to be carried out in the future.

In addition, a further £51,000 was incurred on urban piped water supplies, a few of which have still to be completed. All future supplies of this nature will be undertaken by the Public Works Department. However, this sum has now been credited to the department's total permissible expenditure.

Thus, as from 1951, a sum of £564,261 is available for expenditure on the work to be carried out by this department and on the small staff which up to 1951 will have been charged to the Development Fund. As from 1952, the Development Fund will be relieved of all recurrent expenditure. Thus, an average annual sum of approximately £94,000 (i.e. $\frac{£564,261}{6 \text{ years}}$) will be available for the dams, weirs, wells and irrigation schemes which form the works carried out by the department.

In this department the Development Plan mainly covers a host of small works which still remain to be carried out, and the number to be completed will be limited by the funds and staff available.

Further, it is to be remembered that Government's policy is that works of this nature are, in future, to be paid for by the Native Authorities and African Farming Improvement Fund, from the funds at their disposal.

Recently also, Brigadier Hawes, C.I.E., M.C., M.I.C.E., has advised Government on the expansion of the department, and it is probable that the volume of works which will be carried out by this increased staff will enable an even larger amount of money to be spent annually. In these circumstances the additional funds could be obtained, above those available from the Development Plan, from the Native Authorities and the African Farming Improvement Fund, as indicated above.

APPENDIX 16

Statement Showing Additional Funds Required under the Review of the Development Plan, 1951

	1 Allocation from Development Plan as at 1st January, 1951	2 Revised Cost Short-term Schemes Remaining in the Plan Including Recurrent Expenditure Already Charged to the Plan	3 Revised Cost of Capital Works Including New Works	4 Cost of Revised Plan [Columns 2—3]	5 New Money Required [Column 4—1]	6 Savings under Revised Plan [Column 1—4]
	£	£	£	£	£	£
Health	1,700,000	27,500	1,924,500	1,952,000	252,000	—
African Education	1,463,363	45,316	874,900	920,216	—	543,147
European Education	981,550	—	3,396,666	3,396,666	2,415,116	—
Publications Bureau	16,130	16,130	—	16,130	—	—
Agriculture	731,007	298,428	460,265	758,693	27,686	—
Forestry	287,925	115,892	248,446	364,338	76,413	—
Veterinary	485,929	50,492	242,951	293,443	—	192,486
Game and Tsetse	497,940	199,000	241,000	440,000	—	57,940
Tourist Development	20,000	—	20,000	20,000	—	—
Rural Development	1,498,813	23,295	976,705	1,000,000	—	498,813
Roads, Air and Inland Water Transport	2,066,188	13,613	4,820,922	4,834,535	2,768,347	—
Aerodromes	867,000	—	962,070	962,070	95,070	—
Posts, Telegraphs and Telephones	400,000	—	778,925	778,925	378,925	—
Water Supplies	650,825	19,175	800,825	820,000	169,175	—
Irrigation	293,789	10,956	282,833	293,789	—	—
Agricultural Development and Marketing and Co-operative Societies	520,000	188,000	370,000	558,000	38,000	—
Mineral Investigations	—	—	143,000	143,000	143,000	—
Hydro-Electric Power Investigations	—	—	100,000	100,000	100,000	—
Urban African Housing	1,000,000	—	3,140,000	3,140,000	2,140,000	—
Loans to Local Authorities	500,000	—	3,500,000	3,500,000	3,000,000	—
Building—General	5,792,312	14,981	7,438,019	7,453,000	3,660,688	—
P.W.D. Staff	150,000	900,000	—	900,000	750,000	—
Public Works and Public Utilities	745,000	—	2,770,000	2,770,000	2,025,000	—
Reserve for Territorial Share of Central African Regional and Research Allocations of Colonial Development and Welfare Schemes	68,200	—	95,000	95,000	27,800	—
Unallocated	299,064	—	490,195	490,195	191,131	—
TOTALS	£19,035,035	£1,922,778	£34,077,222	£36,000,000	£18,258,351	£1,292,386

APPENDIX 17

Colonial Development and Welfare Schemes outside the Territorial Allocation of £2,500,000 and not Included Within the Limits of Development Plan

"A" Research and Other Central Allocations

Sub-head	*C. D. and W. Scheme Number*	*Title*	*Amount of Grant* £
62	R.416	Agricultural Research Service (Recurrent)	82,500
63	R.416	Agricultural Research Service (Capital)	134,728
70	R.223	Ecological Survey	2,250
101	R.405	Check List of Trees and Plants	2,500
102	R.400	Forest Research Officer (Capital)	6,000
103	R.400	Forest Research Officer (Recurrent)	6,750
156	R.343	Tsetse Survey Field Research Unit	16,617
401	R.31	Rhodes-Livingstone Institute	15,914
406	R.187	Rhodes-Livingstone Institute	5,978
407	R.194	Rhodes-Livingstone Institute	1,740
410	R.394	Fisheries Research Organisation to serve Northern Rhodesia and Nyasaland (Capital)	35,000
411	R.394	Fisheries Research Organisation to serve Northern Rhodesia and Nyasaland (Recurrent)	27,000
412	D.1178	Geological Survey	67,600
413	R.370	Rhodes-Livingstone Institute	100,000
415	—	Radio Homing Beacon—Mongu	14,660
416	D.793A	Extension Central African Broadcasting Scheme (Capital)	33,750
417	D.793A	Extension Central African Broadcasting Scheme (Recurrent)	8,610
418	R.345	Sociological Survey—A. L. Epstein	1,953
			£563,550

"B" Central African Regional Allocation

Sub-head	*C. D. and W. Scheme Numbers*	*Title*	*Amount of Grant* £
402	D.552A.B	Red Locust Control—Abercorn	66,000
403	D.793	Central African Broadcasting Scheme (Capital)	78,100
404	D.793	Central African Broadcasting Scheme (Recurrent)	66,616
405	D.891	Central African Film Unit	58,926
408	D.893–D.903	Publications Bureau (Capital and Recurrent)	68,316
414	D.1194	Kafue–Chirundu Road	277,778
Administered by Nyasaland:			
		Trypanosomiasis Investigation	640
	D.846	Community Development	28,314
	D.1305	Survey of Fort Jameson–Lilongwe Road	1,000
			£645,690

Note.—The proportion of the cost of these Schemes to be borne from territorial funds has been excluded from this Appendix, but is provided for under the cost of the Revised Ten-Year Development Plan as set out in Appendix 16.

APPENDIX 18

Development Fund Supplementary Estimates: 1951

Head 98: Development and Welfare Schemes (Northern Rhodesia Development Account)

Sub-head	Description	Estimate of Total Cost as inserted in Revised Plan	Approved Estimate, 1951	Revised Estimate, 1951	Additional Funds required, 1951	Notes
		£	£	£	£	
	I.—Social Services:					
	A.—Health:					
19	Broken Hill Hospital	550,000	15,000	220,000	205,000	£150,000 also provided under Head 99/1.
	C.—European Education:					
48	Lusaka Infants' F.S.M. ...	24,750	—	15,000	15,000	Units expected shortly.
49	Kitwe Primary F.S.M.	14,500	—	5,000	5,000	
50	Katapola Extensions	4,000	—	4,000	4,000	
51	Technical Centres	25,000	—	10,000	10,000	To be supervised departmentally.
52	Livingstone Indian School ...	4,000	—	4,000	4,000	
53	Lusaka Indian School	4,000	—	1,000	1,000	
54	Ndola Indian School	4,000	—	1,000	1,000	
55	Mufulira Primary School, F.S.M. Extensions	7,250	—	3,000	3,000	Units expected before end of December.
56	Luanshya Primary School F.S.M. Extensions	7,250	—	3,000	3,000	
	TOTAL: *European Education*, 1951.	94,750	—	46,000	46,000	
	II.—Economic Services:					
	A.—Agriculture:					
73	Soil Conservation Unit... ...	75,000	—	43,600	43,600	£100,000 also provided under Head 99/31.
	IV.—Posts and Telegraphs:					
238	Additional Trunk Outlets ...	107,650	—	23,754	23,754	To cover the cost of materials already being delivered ahead of the anticipated dates.
239	Automatic Telephone Exchange Extensions	59,000	—	49,000	49,000	
240	Private Exchange, Central Offices, Lusaka	10,000	—	10,000	10,000	
245	Telephone Installations, Kasama	2,000	—	1,000	1,000	
246	Extension of Telephone Services to Mine Townships	84,000	—	26,150	26,150	
	TOTAL: *Posts and Telegraphs*	262,650	—	109,904	109,904	
	VI.—Economic Development:					
276	Hydro-Electric Power Investigations	100,000	—	20,000	20,000	Provisional Estimate.
	VII.—Public Works (Buildings) and Public Utilities:					
309	Lusaka Sewerage Scheme ...	500,000	—	25,000	25,000	Provisional Estimate.
311	Urban African Housing	2,140,000	—	135,000	135,000	Authority to commit £350,000 given by Standing Finance Committee on 25.7.51, Min.345.
	TOTAL: *Additional Public Works and Utilities.*	2,640,000	—	160,000	160,000	
	VIII.—Roads and Aerodromes:					
358	Chingola–Solwezi, Class III ...	42,000	—	2,700	2,700	Preliminary work.
364	Livingstone Airport Extensions	95,070	—	14,000	14,000	
	TOTAL: *Additional Roads and Aerodromes.*	137,070	—	16,700	16,700	
	Total Supplementary Estimates, 1951 Development and Welfare Schemes ...	£3,859,470	£15,000	£616,204	£601,204	

SPECIAL NOTE.—The following expenditure in respect of items appearing in the Revised Development Plan has already been recommended by the Standing Finance Committee:—

Special Warrants		*Total Cost*	*Expenditure, 1951*
47	Indian School, Luanshya	4,000 ...	4,000
310	Police Substations on the Copperbelt	180,000 ...	70,000
349	Urban African Housing, Livingstone	44,000 ...	44,000
351	Livingstone–Ndola Road Investigations	22,000 ...	22,000
352	Kabulonga Road, Class I	7,500 ...	7,500
	TOTAL SPECIAL WARRANTS ...	£257,000 ...	£147,500

Authorities to Commit:

	£
European Staff Housing (Lusaka)	400,000
African Housing	350,000

APPENDIX 19

Residual Expenditure Arising out of the Revised Ten-Year Development Plan

Department	Permissible recurrent expenditure year by year from 1951 to 1957 calculated in accordance with paragraph 10							Recurrent Expenditure required by Departments under their revised plans in 1957
	1951	1952	1953	1954	1955	1956	1957	
	£	£	£	£	£	£	£	£
Agriculture	185,000	196,000	208,000	220,000	233,000	247,000	262,000	265,000
African Education	499,000	529,000	561,000	595,000	631,000	669,000	709,000	700,000
European Education	409,000	434,000	460,000	488,000	517,000	548,000	581,000	940,000
Civil Aviation	124,000	131,000	139,000	147,000	156,000	165,000	175,000	136,000
Forestry	123,000	130,000	138,000	146,000	155,000	164,000	173,000	170,000
Game and Tsetse Control	88,000	93,000	99,000	105,000	111,000	118,000	125,000	112,000
Health	603,000	639,000	677,000	718,000	761,000	807,000	855,000	1,112,000
Northern Rhodesia Police	514,000	545,000	578,000	613,000	650,000	689,000	730,000	495,000
Posts and Telegraphs	326,000	346,000	367,000	389,000	412,000	437,000	463,000	353,000
Provincial Administration	358,000	379,000	402,000	426,000	452,000	479,000	508,000	454,000
Public Works Department	335,000	355,000	376,000	398,000	422,000	447,000	474,000	464,000
Public Works Recurrent	615,000	652,000	691,000	730,000	776,000	822,000	871,000	1,250,000
Public Works Extraordinary	970,000	1,030,000	1,090,000	1,160,000	1,230,000	1,300,000	1,380,000	1,380,000
Stores	89,000	94,000	100,000	106,000	112,000	119,000	126,000	108,000
Veterinary	135,000	143,000	152,000	161,000	171,000	181,000	192,000	190,000
Water Development and Irrigation	208,000	220,000	233,000	247,000	262,000	278,000	295,000	185,000